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THE NEUROTIC PATIENT: THE EVER-PRESENT PROBLEM.

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The neuroses are probably the broadest field in medicine. In a very conservative estimate they represent at least twenty per cent of the practice of the general practitioner; every specialist, particularly the gastro-enterologist, the proctologist, the urologist, and the rhino-laryngologist, will attest the fact that his office is a gathering place of the neurotics. In addition, there are a great many neurotic individuals who never consult a physician because, in some instances, they do not regard themselves as pathological; in other instances, they feel too ridiculous about their feelings; and in still others, are embarrassed at the unpleasantness of their difficulties. Many alcoholics and drug addicts, who are primarily neurotics, never see a physician about themselves. Of those consulting a physician, the neurotic element is frequently missed in the diagnosis. We see numbers in this particular category daily who have consulted physicians to be instructed that their stomachs were out of order, or that their hearts were bad, or perhaps to have a portion of their thyroid removed. A large number of individuals with organic difficulties present also neurotic symptoms and it is often very difficult to distinguish the psychogenic from the organic symptoms.

The great prevalence of these disorders, however, in some part may be laid to the attitude of the physicians themselves. In the first place, there is a woful lack of technical understanding of this branch of medicine, because we receive an inadequate training in medical schools in the psychology of the individual. In fact, our medical schools train us to be somatists and to either neglect or deny the existence of the psychological factors in the individual. Because in the neuroses we find a wide variety of physical symptoms, many physicians content themselves by attacking a particular physical symptom and permit themselves to ignore the psychological factors. For instance, a woman came to us very greatly concerned about her supposed heart difficulty, with the history that she had had her heart examined by at least ten different physicians, several of whom had noted the palpitation and occasional extrasystoles, and she had received a great deal of medication for it. Not a single one of these physicians, however, had inquired far enough to find that she had a very unhappy marital situation with an over-critical, tyrannical, domineering husband, of whom she lived in almost constant dread. Her symptoms had their foundation in her psychological difficulties, and all who gave her any medication or paid particular attention to her heart, unintentionally increased her difficulty.

In most instances, we literally are trained to be specialists of the body and, to a very large extent, ignore the fact that a personality exists within the body. We hear the phrase "treat the patient and not just the disease," but in many instances, when the physician fails to find objective physical pathology in these patients, he is at a loss as to how to regard or understand the psychological side. Then, too, there are a great many physicians who very much doubt the actuality and genuineness of their patients' troubles. Quite frequently I have had very excellent surgeons and internists ask whether the patient was malingering or had "hysteria," failing to appreciate that the two are just as different clinically as pneumonia and tuberculosis. Far too often the patient is instructed that he should help himself, or perhaps he is given the more common platitudinous advice to "cheer up and forget it," both of which are only indicative of the physician's inadequate understanding of the patient's difficulty. Because of the nature of

the illness, coupled with the physicians' unsuccessful treatment measures, the patient continues to reappear, with the result that many physicians become annoyed, irritated, and finally disgusted with the neurotic person. They fail to recognize two very important functions that the neurosis fills for the patient: one is the deliberate, though unconscious provocation of distress in persons nearest to the patient, i. e., his family, physician, and friends; the second is that fundamentally the neurotic has found a compromise for his struggle in his illness and unconsciously does not want to get well, despite conscious strivings in that direction.

CLASSIFICATION

We recognize that the problem of the neuroses is complex and even somewhat confused, and an attempt to make it relatively simple perhaps is presumptuous. That we may have a bird's-eye view of the conditions included under this head, we may attempt an outlined classification. Confusion exists, however, about the classification, because of contrasting views. One group of investigators is interested primarily in describing the neuroses in terms of physical pathology and physiology. They are concerned with the machinery by which the neurosis is produced and, consequently, stress particularly its physiology. Confusion is further created by the historical development of our knowledge of the subject, with the result that terms like "hysteria" and "neurosis," when created, had a very different concept than at present. As a consequence, the terms now used represent a mixture of historical development, psychological theory, physiological conceptions, neurological facts, and clinical manifestations. Depending upon the point of view, then, each conception has a different meaning. So long as one is consistent, however, and does not confuse psychological and physiological terminology, it probably makes little difference what classification he uses.

Thinking of patients as belonging to the hysterical or neurotic group leads easily to error in understanding them, as well as to the error of handling them mechanically and routinely. We cannot emphasize too strongly the notion that it is vitally important to remember first, last, and always, that the patient is a human being, and second, that he is suffering from a mental disorder having this or that appellation. An attempt to understand the significance of his illness in the pattern and function of his life, is best made, we think, through an interpretation of his ideas and behavior according to psychological mechanisms. It is very desirable to know more of brain metabolism and inter-organ integration, but the psychological attack on the problems of mental disorder has been more fruitful in its result than the organic attack.

For these reasons, we much prefer the psychodynamic point of view, which originated through Freud's investigations. This view explains the why of the disease rather than the how: that is, it explains motives rather than physiology. We regard the neuroses as psychogenic in origin, i. e., psychological reactions to developmental factors and situations.

Thus the neuroses are forms of purely mental disorders, sometimes with secondary physical symptoms, but quite apart from the more severe mental disorders grouped under the psychoses. In the psychoses the personality's struggle with his environment is so difficult that he takes flight from the situation and, consequently, makes a breach between himself and reality. Such a struggle appears between the patient and the external world. In the neuroses, on the other hand, the individual does not deny reality and his sickness represents a compromise between the personality and the situation. Instead of becoming hallucinated and delusional, he develops symptoms concerned with himself. The struggle appears entirely within the individual rather than between the individual and the external world.

The neuroses are classified into what are called actual neuroses and the psychoneuroses. The actual neuroses exhibit themselves primarily as physical disorders and the causative factors are predominantly physical in character. They represent a temporary or permanent physical and physiological set of disturbances within the organism and are primarily a response to some difficulty in the present situation. The pathogenic agents are operative at the actual time the symptoms are present, as, for example, in neurasthenia we find the etiology most commonly an excessive masturbation or frequent pollutions or their psychological equivalents, that is, auto-erotic fantasies. In addition to neurasthenia, the actual neuroses include the anxiety neuroses and hypochondria. The anxiety neuroses are directly dependent on frustrated or, rather, dammed-up sexual energy and are characterized by anxiety from dangers within the individual. Hypochondria is characterized by a series of physical complaints and intense preoccupation with a particular bodily organ.

The psychoneuroses, on the other hand, do not present any physical basis but exhibit themselves primarily as strictly a mental disturbance. They are psychogenic in their origin, with responses condi-

tioned entirely by the individual's development. They are the result of mental conflicts within the individual and the symptoms have a definite meaning expressed only in mental terms. The causative factors are predominantly mental. Under this group are included hysteria of two types, conversion hysteria and anxiety hysteria. In conversion hysteria the individual's mental problem or complex, as it is termed, is shoved back into the unconscious and there it is converted, unknown to the patient, into a physical symptom such as paralysis, stammering, torticollis, convulsions, or aphasia. In anxiety hysteria, the psychological problem or complex is shoved into the unconscious, but in this instance is converted into a set of ideas projected outside the body, such as fears or nightmares. The second great group of the psychoneuroses are called the compulsion or obsession neuroses. In these conditions the individual goes backward or regresses, as we term it, in his mental life further than the individual with hysteria, and his mental conflicts are converted into obsessive thinking and compulsive acting, such as counting numbers, washing hands, kleptomania, tics, habit spasms, insomnia, and so forth.

We recognize that possibly this classification, even though very briefly outlined here, may be too elaborate for the general practitioner. So we suggest the continued utilization of a much simpler classification, a diversion which is not entirely technically correct and yet is practically of considerable help, from a diagnostic point of view, to the general practitioner. This classification includes only three groups: neurasthenia, hysteria, and the obsessive states, or psychasthenias, as they were once called.

In neurasthenia the patient complains of difficulties which he expects the physician to see but which cannot be seen or demonstrated. One of our recent patients, a woman aged 52, describes this picture classically. "About five years ago I had a major sinus operation and I went right from that into mucous colitis. This caused me to be weak and nervous. I built myself up a little but then I suffered terribly with drawing in my throat. A famous professor from Chicago brought me out of it, but it seems that my poor body has been consumed with mucus. My nerves are terrible. My head felt queer and my stomach cramped. I have been on the verge of a nervous chill all the time but I have been fighting it hard. I have to get up at night to get my circulation started. I had to have a special nurse night after night because of my condition. My physician called in two more doctors and my bad kidney has been admitted every place I have been. Eating has been awfully hard and every bite of food is agony to get down, for my throat aches and feels so closed up. Then my bladder, too, has given me trouble. My eyes are bothering me more and my nose runs terribly every time I eat. My poor body is just sick all over." Perhaps it is necessary to add here that repeated examinations failed to show any physical pathology in this individual.

In hysteria the patient complains of a difficulty and presents symptoms which the physician can see unmistakably, although he cannot always interpret them. The following example of this condition illustrates not only a more common type of hysteria but also is frequently referred to as traumatic hysteria, because of its association with an accident. The patient was a day laborer, 39 years of age. While he was unloading cement from a freight car, a sack fell not more than two feet and hit him on the right shoulder. He continued to work but, about a week later, began to develop a left-sided contraction of his neck, which progressively increased as the intensity of his legal battle for compensation increased. When we served as a neutral examiner for the court, three months after the accident, the patient's head was entirely drawn over so that it nearly lay on the left shoulder. Neurologically there was no evidence whatever of any organic lesion and, under suitable conditions, the patient could even straighten his head erect without pain or distress.

In the obsessive states, the patient complains of a difficulty which he does not expect the physician to see or understand. A very pronounced case showing this picture was a married woman of 48 years who, eight months previous to examination, was playing cards one night and drew a royal straight flush in spades, which she had once heard was a bad sign. She felt shocked and threw down the hand without playing. She tried to play a little longer, but she was terribly scared and began worrying intensely. Then one thing after another came to occupy her mind as fearful things. At first it was mirrors and, if she saw a woman with a compact, she avoided that woman. As she walked down the street, she was afraid she might step on a mirror or perhaps a piece of glass. Dates began to harass her, the dates of her children's births or their deaths, the thirteens and other dates which must be observed with special precaution. She created new superstitions, feeling it necessary that, when she entered a house, she must use the right foot first and the right hand first. If four people were together, she was distressed, because one of her children died on the fourth. She never bought anything that cost $4.00 or 4 cents. "Every-

thing is muddled and wrong in my mind. It is like a maze. I don't sleep for worry. A hundred and one things obsess and oppress me. God knows I can't keep it up much longer. My mind is never at peace and I make others about me ill. They have tried to do everything for me."

This patient was in the hospital for a time but, when her family decided she might come home, there were thirteen women in the institution and that number was such that she couldn't go. She hoped that somebody would leave and about mid-afternoon one of the patients was dismissed. She got ready to go and then another new patient came in. Then for three days she might have gone home if the census had changed, but it did not, and she felt this necessitated her staying five weeks longer.

ETIOLOGY

The primary causes for the neuroses are to be found in two general groups. The first is a persistence of infantile trends or infantile behavior patterns. These refer to developmental arrests at various levels in an individual's mental growth, and their continued expression in adult life. "It is a common observation that the behavior of every neurotic patient presents features which are more or less characteristic of the child, more particularly what is known as the spoiled child. The neurotic is generally sensitvie, very often extremely so. He is inordinately attached to his family, more particularly the mother, and craves more than his share of attention. He likes to exhibit his merits or even his failures, and wants people to talk about him or his illness. He is emotionally unstable, oscillating apparently without reason between elation and depression. He is either afraid to be alone or is impetuous in his ways. He is intensely preoccupied with himself and interested in everything that concerns his welfare, so that he usually gives the impression of being superficial, of often possessing excessive enthusiasm but never for very long. He is inordinately ceremonious, particularly about food, and is generally preoccupied with his bodily functions. His dependence upon, and undue attachment to, his family interfere with his making close friends or keeping friends he has made, and stand in his way of falling in love or being happy in marriage." (Quoted from Wechsler, "The Neuroses.)

The second group of causes centers around an abnormal psychosexual development, either by arrest or by distortion of the normal development of the individual, or by the process which we call regression, a slipping back to a lower level after having achieved a higher level. The individual passes through the baby stage, which we call auto-erotic, in which all his interests are centered about himself. Normally he must grow up, passing through stages of psychosexual development, when he is interested in those of the same sex, the normal pre-adolescent period, and finally, if he is to achieve adulthood, must become interested in those of the opposite sex, with a complete replacement of his parental and particularly his mother attachment, to a mature social interest in his mate, his associates and his community. In this process of growing up, the individual may fail to grow completely out of one stage into the next. He may distort this development, as, for instance, by giving his wife the same kind of love which he gave his mother. He may reach a certain level, find adjustment there too difficult and, entirely unconsciously to him, go back to an earlier level where adjustment is more simple.

The secondary causes perhaps might be discussed first because, in most instances, the patient is sure they are primary, and they do superficially appear to be primary. These include fatigue, illness, shock, accidents. Such agents, however, must be regarded only as precipitating factors. They are literally "the straw that breaks the camel's back." In reality, the stage with its scenery and the actors is all set for the performance and the illness or shock only serves to lift the curtain. These precipitating factors thus draw the line between neurotic tendencies and the neurosis and serve to bring to the surface a condition which has previously been controlled and superficially hidden from view.

MECHANISMS

To understand the nature of the neuroses, we must understand not only the etiological factors but also the psychological steps that take place in the individual to make him develop the symptoms of physical complaints, hysterical paralyses, fears, compulsions, and the like. In every case we must understand that primarily the neurosis is a conflict in which the disease itself represents a compromise, between the individual and his situation, which is acceptable to the patient. Always these compromises represent frustrations, in the sense that the individual is thwarted from achieving his desires and so compromises with the situation to produce his symptoms.

The following example is typical of the neurotic process. My friend dies on Sunday and his funeral is set for Tuesday. I know I must go to his funeral but I do not like funerals and I do not want to go. Nevertheless, it is imperative, because of social custom, that I attend. I go through Sunday and Monday dreading Tuesday afternoon. Tuesday morning

I develop a headache, really a severe headache, which necessitates my going to bed, and this continues through the afternoon. Thus I feel that certainly I would not be expected to attend the funeral with so severe a headache. I excuse myself in this fashion, accomplishing unconsciously my purpose of evading the funeral and punish myself with the headache for what I know I should have done. In this instance there is a part of me that wants to go to the funeral and another part which doesn't want to go.

In every case, as in this, the first psychological step is a sort of doubling of the personality which we call dissociation. In such a step the patient separates off a set of ideas, which we call a complex, from his real personality, because this complex is undesirable or unacceptable to his conscious self. Rather common examples seen in neurasthenia are complexes with regard to masturbation, pollutions, or autoerotic fantasies. In the typical old maid, the whole matter of her complexes centers around the deficient external sexual stimulation with the excessive distorted discharge of energy in her characteristic eccentricities. Long engagements produce an excessive external stimulation without adequate discharge, or very often the individual's sexual contacts are in decided conflict with his morals. All of these are in a sense complexes which we find express themselves through other mechanisms to follow.

The second step is a repression of the complex, which means that these ideas which are separated off from the conscious life are forced into the unconscious. The patient attempts to ignore or deny the complexes because they are unpleasant or unacceptable, and the mental mechanism which is used to shove them into the unconscious is called repression. But the ideas are still a part of the individual even though unconscious to him.

In our example of the funeral, there must be other ideas associated with the particular friend or with the idea of death which were effective in previous similar situations, which gave rise to the antipathy to attend the funeral. These ideas, however, over a period of time have come to be denied by myself but have taken their place in my unconscious. Or, in other words, they have been repressed. They continue, however, to seek expres ion in the development of my headache.

The patient in the third step unconsciously slips backward in his psychological development to a lower level or an earlier stage in his development, where the repressed ideas are able to find an opportunity for expression. If I am to be mature, I cannot harbor the idea that I should not go to the funeral or that I need not go, but if I can turn back the pages of my life to a stage when responsibility and friendship were of less importance, then I can let myself be convinced that I do not need to attend the funeral. In the individual's unconscious, he goes back to an earlier stage of his development where these influences may express themselvs harmoniously.

In the example cited, I develop a headache, which is illustrative of the next step, namely conversion. These complexes find expression by being converted into the physical symptoms. In neurasthenia, the repressed complexes are converted into vague physical complaints. In the anxiety neurosis, they are converted into anxiety. In hypochondria, they are converted into great attention about various organs of the body, like the heart or stomach or uterus. In hysteria, they are converted into the paralyses, aphasia, stuttering, or convulsions. They are sometimes projected and distorted to ideas outside of the individual, like the fears of high places, of darkness, of crowds, and in the compulsive states, the individual substitutes an innocent or uninvolved object or part of himself, like the washing of the hands, stepping on cracks, and other ceremonial procedures.

What we must see in the patient with the neurosis is that the repressed ideas must and do express themselves. The fact that these ideas are repressed, means they are a part of the patient's unconscious. He fails to recognize them for what they are but, because of their power, they seek and find expression. This expression, however, is permitted only in some disguised form and then only if the patient can suffer punishment for its appearance. Again returning to the funeral-headache example, I escaped the funeral but I punish myself with the excuse that I give, namely, the headache. The physician must recognize that I accomplish something by my headache and that this accomplishment brings with it a distorted sort of pleasure because of the accomplishment. Consequently, the observation is often made by physicians that the neurotic is "happy in his sickness," or enjoys a "sweet sorrow." The patient's unconscious wishes find expression in his symptoms, and yet these very symptoms serve as a punishment.

Briefly, the steps that operate to bring about the symptoms in the neurotic individual are, a conflict, a dissociation of the undesirable portion of the conflict, a pressing of this part into the unconscious, a regression to a simpler psychological level where it can gain expression by conversion into symptoms.

TREATMENT

If we fully understand the psychological nature of the neuroses, we should be able more adequately

to fit the treatment to the illness. It is essential to recognize that we cannot treat psychological illness simply with physical measures, with any more success than we can treat physical illnesses with merely psychological measures. The neurotic has found his compromise in his backache, or numb spells, or fears, and unconsciously is satisfied with it. His unconscious does not want to get well, despite his conscious efforts in that direction. He goes from doctor to doctor, always seeking help and yet unconsciously never wanting to find it. The treatment must depend on the type and the stage of development of the neurosis and can be discussed best under three heads: physical, environmental, psychological.

Under physical treatment, we should emphasize precautions in handling the patient, advice and recommendations to be made to him, and the place of operations.

I. Physical.

1. Precautions: We are impressed with many instances of the mishandling, on the part of physicians, of neurotic patients, which undoubtedly accounts for the fact that this group are the boon for the naturopaths, the chiropractors, the osteopaths, and the like. In handling a case, certain routine procedures are indicated, such as the physical and neurological examinations, laboratory analysis and special examinations; but the findings and further advice must be very cautiously imparted to the patient. The neurotic is looking for corroboration of his physical complaints, and, because most of them see many doctors, they are bound to find a certain number of physicians who will indicate concern about their palpitation or the faint trace of albumin in the urine, and the like. The neurotic is unconsciously seeking this very solace, and these physicians are unintentionally adding to the neurosis rather than detracting from it.

2. Advice. The majority of these patients need advice and instruction as to physical hygiene, but here, again, extreme precaution must be used in not placing undue emphasis on this advice. These patients are all too willing to take medicine, sedatives of any kind, stomach medicine and tonics, and place a great deal of importance on these. It is unquestionably true that far too often, because the physician is perplexed, he allows the patient to place great emphasis on the medication, but such practice is unscientific and we must see that it is detrimental to the patient in the long run. Likewise, prescribed diets may be a source of great satisfaction to the patient because of his tendency in many instances to become a faddist about any suggestion that is made to him. So, often, we find patients who live on the most bizarre sorts of diets without any scientific basis whatever. Exercise is perhaps often indicated and very practical but, like various physiotherapy measures, does not fundamentally relieve the psychological conflict in the personality and, while they may be beneficial, they may be very harmful.

3. Operations. In no other field in medicine, except in the psychoneuroses, do patients demand operations. They unconsciously want to be punished and very frequently will go from surgeon to surgeon until they find someone who will operate upon them. Far too often, we remove tonsils, letting them assume that it is going to make a great difference in their condition, when we know absolutely that in nine out of ten cases it will probably in no way influence the neurosis. The same is true regarding the extraction of teeth, the removal of ovaries, and other forms of abdominal and pelvic surgery. In many instances, undoubtedly, the operation does help the patient temporarily because he is punished, which his unconscious desires, and yet, in a majority of cases, over a period of time his neurosis is not materially helped. In many instances the individual gets well from one operation, to start out seeking another one. Recently a case came to us with a history of six major abdominal operations. A reasonable doubt may have justified the first and, possibly, even the second operations, but there is no excuse for the last four.

II. Environmental.

This second general class of treatment may be regarded as palliative. The first simple rule is to listen to the patient tell his story, which, in the present-day practice of medicine, is in far too many instances neglected. He may be long and involved, but this first step is essential to success. It is essential to gain his confidence, and if you don't listen to it, someone else will. The mental catharsis from such a procedure is in many instances the most practical treatment measure that the physician can use. Physical hygiene measures are of value, partly because often the neurotic individual needs to have his daily program organized and scheduled, and partly because these measures are a more propitious outlet for the neurotic tendencies than are the somatic complaints. But exercise, diet, and physiotherapy are merely substitutions for the attention focused on the physical symptoms, without any fundamental change in the psychological conflicts. Very often a change in the situation should be advised. It is com-

mon for a physician to recommend a change in climate for the individual's physical health and yet we must recognize that in the neuroses it is often more advisable to recommend a change of climate for the emotions. Pressure might be greatly relieved in escaping an unhappy marital relationship, business conflicts, parental influences. In many instances, the physician should feel his responsibility in giving simple, frank, sexual education, which in some instances may entirely relieve the pressure of the conflicts. The "rest cure," so called, is practical in many instances, but usually needs to be followed by a change in the environment. Specific occupational direction is sometimes possible, in which the patient can replace his symptoms in a practical productive form, such as in a change of business, particular type of recreation, handicraft, reading, music, or art. The fact that the patient might be able to project these symptoms into his work rather than keep them within himself, makes it possible to relieve a great many neurotic individuals.

III. Psychotherapy.

The most rational and, certainly, the most scientific type of treatment, is psychological. The psychological treatment can be of two types, supportive and psychoanalytic. In the supportive type, we may simply permit the patient to talk his symptoms out, which is termed expressive psychotherapy. In surgical language it would be called free and adequate drainage. In a few instances a suppressive psychotherapy is of advantage, in which we do not encourage the verbal expression but urge the conversion of the patient's energy and interest into more productive channels. In surgical terms, this is much like a wet dressing. The abscess may not be ready to open and, on the other hand, it may subside without the necessity of opening.

The second type of psychological treatment is psychoanalysis. Psychoanalysis was originally a method, worked out by Freud, whereby people who had nervous illnesses which no one could understand, not only came to understand their own illnesses but were cured of them. It is still one of our useful methods of treatment but has also become a method of scientific research. One frequently hears of various cults and conflicting leaders in the field of psychoanalysis, but there is no such division of leadership. All psychoanalysis is Freudian. Numerous men, both European and American, have evolved theories and written books and preached sermons in the name of psychoanalysis of their own particular variety. But there can be no heretical variety of psychoanalysis any more than there are conflicting schools of chemistry or physics. It is only because the science is so young that it is possible for certain upstarts to convince any portion of the uninformed that this is so.

It may be queried how psychoanalysis offers us aid in circumventing the difficulties we see in the neuroses (and it is safe to say that psychoanalysis is a successful technic just because it has overcome them). It has done so, first of all, by perfecting a method of getting at the unconscious material of the mind. In the second place, by a vast amount of research, the symbols and language of the unconscious have become sufficiently well translated to enable us to understand this material. Thirdly, it was found possible to arrange the relations between the individual to be studied and the observer, so that there would be a premium upon gaining his cooperation instead of a premium upon his success in hiding his motives. And, finally, the blind spot in our own personalities is overcome by the logical process of having prospective observers first make an exhaustive study of themselves. No psychoanalyst is recognized as competent today who has not himself been psychoanalyzed.

Psychoanalysis is the only type of treatment that gives the patient control of the situation, through insight into the unconscious, which is the seat of the neurotic conflicts. It necessitates a desire on the part of the patient to cooperate, and a fair amount of intelligence. But to the general practitioner it is in the same class with major surgery. It is a specialized type of major psychiatry and it should be used only in the hands of psychiatrists who themselves have been analyzed.

SUMMARY

In the neuroses we are dealing with a very wide field of medicine, for the reason that all of us have neurotic tendencies. When the pressure of the environment becomes too great, we have to compromise with these tendencies, and we may develop a neurosis. We regard it as always a compromise between the neurotic tendencies and the situation, which is acceptable, but entirely unconscious in its workings, to the individual. These unconscious conflicts express themselves in bizarre ways, almost always with pain or distress, but because they find expression, which is fundamentally their aim, the individual is in a sense satisfied. His unconscious is satisfied and it does not care to make any change. So, despite the strivings of the conscious to get well, the more powerful unconscious does not desire to get well. In the final analysis, recovery is possible only when the intrapsychic conflicts are resolved.

PURE MILK AND HUMAN NUTRITION.

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(Address before the El Paso County Medical Society, September 9th, 1932.)

In the noteworthy report on nutrition[1] prepared by the Committee on Growth and Development, of the White House Conference on Child Health and Protection, there occurs the significant statement that "the indispensable part of a satisfactory diet consists of a nucleus of a liberal amount of milk, surrounded by a group of fruits and vegetables, the whole providing the requisite amino-acids, vitamins, mineral elements, and roughage." All authorities on nutrition seem agreed that every growing child should consume at least a quart of milk in some form every day, and that a pint a day is the desirable minimum for adults.

Many recent investigations, both clinical and laboratory, have demonstrated that milk possesses unique dietary properties. In a brilliant paper presented before the American Medical Association in 1931, Sherman[2] raises the question as to whether milk may or may not be "one of those 'wholes' which, while chemically a mixture, is in the philosophical sense a sort of synthesis whose significance is greater than a mere summation of its parts?" This authority answers the question by stating that milk is probably both, and that undoubtedly this essential food has involved in it substances and interrelationships whose nutritional importance is even greater than is yet fully appreciated.

Milk may be divided in the laboratory into its constituents—the fat, proteins, minerals, lactose, vitamins, enzymes, and fluids, which, taken together, earn it the sobriquet of "most nearly perfect food." When, however, these individual constituents are recombined to make a synthetic product, the same results in the promotion of human growth and health cannot be obtained as can be secured from the natural product. This phenomenon indicates that milk contains dietary substances as yet undiscovered or recognized and that, as Professor Sherman implies, the whole is greater than the sum of its known components.

The first clues to the presence in foods of those accessory dietary factors now called vitamins, came as the result of experiments with milk.[3] As early as 1881, Lunin in Germany found that laboratory animals could live on a diet of whole milk, but succumbed quickly on a combination of purified constituents of milk. In 1906, Hopkins in England observed that experimental animals failed to grow on purified mixtures of casein, lard, starch, sucrose, and mineral salts, but thrived when small amounts of milk were added. Announcements in 1913 of the discovery of the first vitamin, the fat-soluble A, by Osburne and Mendel, and simultaneously by McCollum and Davis, resulted from experiments with milk, as did also the discovery of the water-soluble vitamin B in 1915.

Today we know that milk is always an excellent source of vitamins A and G, a good source of vitamins B and E, and a fair source of vitamins C and D. We know also that the content of vitamins C and D in milk is dependent upon the nature of the feed given to the cattle. Recent investigations at the Walker-Gordon farm at Plainsboro, New Jersey, have shown that the potency of a certified milk in vitamin D, the antirachitic agent, can be increased from sixteen to twenty times that of average winter milk, by the addition of the proper amounts of irradiated yeast to the cows' rations. Clinical tests have demonstrated that such a biologically activated milk will cure and prevent rickets in young infants.[4] Similar results have been obtained with irradiated powdered milks.[5]

The influence of milk on the growth, health, fertility, resistance, and longevity, of its regular consumers has been proved by a series of investigations conducted by Sherman at Columbia University in New York City. These experiments have involved more than thirty generations of laboratory animals and have extended over a period of more than a decade. If similar tests were attempted on human subjects, they would require about 600 years for their consummation.

A proportion of one-sixth whole-milk powder and five-sixths whole-wheat powder, with a little salt and plenty of distilled water, is an adequate diet for these animals. On it they reproduce, nurse their young, and grow and live satisfactorily. When, however, the amount of milk in this diet is increased from one-sixth to one-third, some striking results are achieved. The diet becomes an optimal instead of an adequate one, and there is a corresponding increase in the vitality, fertility, and longevity of the subjects.[6]

Not only is the resistance to disease improved by means of this greater amount of milk in the diet, but the prime of life of its consumers begins earlier and lasts longer. There is likewise a definite, measurable increase in longevity. Statistical studies, in which

the chance of error is computed to be only one in ten thousand, reveal that the length of life can be increased 10 per cent by means of this diet. Translated into human experience, this indicates that six years might be added to the present average length of life in this country by the employment of proper nutrition, in which milk would obviously have a leading role.

Laboratory studies such as these have received confirmation from extensive tests with human subjects. In Scotland, nearly 25,000 children participated, between 1926 and 1930, in the greatest single feeding experiment ever conducted. These tests began in 1926, when approximately 1300 school children were divided into four groups, two of whom received supplementary milk feedings of three-quarters of a pint of milk a day, while one group got biscuits of equal caloric value and the fourth served as the controls. A second experiment with another 1200 school children was conducted in the following year.[7]

When the results were analyzed, it was found that the milk-fed group of children had increased their weights 45.4 per cent more than the non-milk group, and had increased in height an average of 23.5 per cent over those who were not so fortunate as to get supplementary milk feedings. In order to submit these findings to an even more severe confirmation, 20,000 children were selected for a third test. Of these, one-half were given raw or pasteurized milk and compared with the other 10,000 who were not so favored.

The effect of the use of milk in the diets of this vast number of school children demonstrated, in the words of Dr. J. Parlane Kinloch, the chief medical officer, "that the addition of milk to the diet of children has a striking effect in improving physique and general health and increasing mental alertness. They suggest also that, apart from its own food value, milk enables the other constituents of the ordinary diet to be more fully used as growth factors'."

One important point brought out in this study was that pasteurized milk, which was used in about half the cases, gave as excellent nutritional results as did raw, tuberculin-tested milk. Authorities are agreed that the process of pasteurization, as carried out today in modern machinery, has virtually no effect upon the unsurpassed nutritional qualities of milk, even though it destroys 90 per cent of the bacteria, including any pathogens that might be present. The careful heating of milk to 142° F and the holding of it at that temperature for 30 minutes, followed by rapid cooling, is a measure that puts the final seal of safety on a clean milk produced under sanitary conditions. All progressive health authorities are agreed that proper pasteurization should be applied to all market milk except that of certified grade.

Despite the promotion of annual milk-for-health campaigns by the Texas State Board of Health and other agencies, the consumption of milk in this state is much below the quantity that would be conducive to the best nutritional and economic interests of the people. Several years ago, an investigation by the United States Department of Agriculture revealed that in some parts of Texas less than a third of a pint a day was the per capita average. In a comparative study of the dietaries of Texas children, Winter reports that the average amount of milk taken by American children was only about 2½ cups a day, while Mexican and Negro children imbibe less than 1½ cups daily.[8] As a consequence of this deficiency of milk in the diet, as well as because of other defects, these children display a consistent inadequacy of calcium, with the attendant physical troubles due to this lack.

In recommending the use of adequate amounts of milk in the daily diets of children and adults, physicians stress, of course, the necessity of pure milk supplies and advocate the employment of either certified or grade A pasteurized milks. The use of these grades obviates the possibility of the spread of such diseases as typhoid fever, scarlet fever, septic sore throat, undulant fever, and tuberculosis, which may be disseminated through insanitary and contaminated milk supplies. A pasteurized milk is, incidentally, superior to boiled milk from the nutritive standpoint.

Pure milk is also available today in the form of the various concentrated milks, such as the powdered, evaporated, and condensed. These are whole milks produced under proper hygienic conditions, from which some or all of the normal water content has been removed by careful heating methods. Since the manufacturing processes are such that these milks are either sterile or extremely low in bacteria, they are clean and safe milks, uniform in composition, and, because of the fine dispersion of the fat particles, more digestible than fluid milks. The heating processes leave the vitamins and other nutritional properties of the milk virtually unimpaired.[9] A powdered milk, such as the well known Klim, or a standard evaporated milk, may when reliquefied be used for all of the same purposes as the best grades of certified or pasteurized milk, and usually with greater economy, or it may often be used to advantage in concentrated form.

Since the dawn of history, milk has been recognized as the most important food of man. Of it Aretaeus, the famous Greek physician, wrote two thousand years ago: "To take milk is pleasant; to drink it is easy; it contains solid nutrition and it is of all foods the one which is most familiar from childhood; it is even pleasing to the sight on account of its whiteness." The researches of modern medical and biochemical science have sanctioned our admiration for the dietary values of milk and have given us ample reasons to consider it as the one single food for which there is no dietary substitute. Pure milk should properly be the basis of every well-balanced and adequate nutritional regime for infants, children, and adults, and as such it will be a most potent factor in the development and maintenance of general good health, satisfactory virility, and physical welfare."

REFERENCES

1. Growth and Development of the Child. Part III: Nutrition. White House Conference on Child Health and Protection. Century. 1932.
2. Sherman, H. C.: Some recent advances in the chemistry of nutrition. Jour. A.M.A., 97:1425 (Nov. 14) 1931.
3. Tobey, J. A.: Milk as a source of vitamins. Clin. Med. & Surg. 39:189, (March) 1932.
4. Hess, A. F.; Lewis, J. M.; MacLeod, F. L.; and Thomas, B. H.: The antirachitic potency of the milk of cows fed irradiated yeast or irradiated ergosterol. Jour. A.M.A., 97:370, (Aug. 8) 1931.
5. Hess, A. F.; and Lewis, J. M.: Milk irradiated by the carbon arc lamp. Jour. A.M.A., 99:647, (Aug. 20) 1932.
6. Sherman, H. C.; and Campbell, H. L.: The influence of food upon longevity. Jour. Nutrition, 2:415, (March) 1930.
7. Leighton, G.; and Clark, M. L.: Milk consumption and the growth of school children. Lancet, (Jan. 5) 1929.
8. Leighton, G.; and McKinlay, P. L.: Milk consumption and the growth of school children. Department of Health for Scotland. 1930.
9. Winters, J. C.: Comparative dietary studies of American children of nursery school age. Amer. J. Pub. Health, 21:1003 (Sept.) 1931.
10. Tobey, J. A.: Nutritive value of the processed milks, Clin. Med. & Surg., 38:410, (June) 1930.
11. Crumbine, S. J.: and Tobey, J. A.: The Most Nearly Perfect Food. Wlliams & Wilkins. 1929.

THE TREATMENT OF INDIGESTION, UNDERWEIGHT. AND ALLERGY, WITH THE OLD AND NEW FORMS OF DIGESTIVE AGENTS.

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The purpose of this paper is to discuss the common causes of indigestion and its resulting complications, such as underweight and allergy. There are many causes of underweight, but only that phase of the problem which is related to imperfect digestion and absorption will be considered. We believe that allergy may be due, in part at least, to the inability to digest completely the complicated protein molecule, the absorption of which may cause sensitization, and that the perfection of digestion plays an important part in the treatment of all forms of allergy.

THE DIAGNOSIS OF ERRORS IN DIGESTION

The simple Ewald test meal followed by fractional test meals with additional stomach stimulants, such as alcohol given with the meal, or histamine injected subcutaneously, affords an easy method of studying the secretory efficiency of the stomach. Following a test meal, the aspirated stomach content should show 20 to 40 degrees of free hydrochloric acid and 40 to 60 degrees of combined acid. The peptic power, by the Metz egg-albumin tube, should show 256 degrees of peptic activity.

In this paper the term "hypochlorhydria" is used to indicate a condition where the free hydrochloric acid is less than 20 degrees and the total acidity is less than 40 degrees; the term "achlorhydria" is used to indicate a condition where no free hydrochloric acid is found in the stomach, even after alcohol or histamine stimulation; and the term "achylia" is used to indicate a condition in which both hydrochloric acid and the enzymes pepsin and rennin are absent.

Patients with hypochlorhydria, achlorhydria, and achylia do not usually complain of any stomach symptoms. They may not complain of any symptoms referable to the gastro-intestinal tract. Their most common complaints are alternating attacks of constipation and diarrhea, abdominal distress, and distention. Hypochlorhydria and achlorhydria are very common conditions. Many statistical surveys show that the incidence in adults is nearly in proportion to the age. That is, 50 per cent of the adults 50 years of age have either too little acid, or no acid, in their stomachs. The condition is not uncommon in babies and small children.

A positive diagnosis of impaired digestion is much more difficult to make. Where bile is absent or greatly diminished, the stools are usually clay colored, both from the lack of bile and because of the large fat content. Such patients are also usually jaundiced. Abnormal amounts of undigested carbohydrate, protein, or fat in the stools of patients with normal stomachs who are not taking cathartics, or in whom there is no evidence of serious intestinal infection or hypermotility from any cause, might be

due to a lack of pancreatic juice. At the present time methods are being perfected for taking samples of the duodenal content. Many of these patients state that they can not eat starchy foods because they cause abnormal amounts of intestinal gas. Such patients complain that they can not eat the usual amounts of protein foods because they seem to cause abnormal amounts of intestinal gas which has a foul odor. Large amounts of indican are usually found in the urine, and the breath may have an unpleasant fetid odor. Some patients say that fat foods such as cream and butter do not enable them to gain weight. In such cases, examination of the stools usually reveals that, although well colored with bile, they contain abnormal amounts of fat.

THE TREATMENT OF INDIGESTION WITH VARIOUS DIGESTIVE AGENTS.

Acid fruits and fruit juices: Clinically, in the hypochlorhydrias, the achlorhydrias, and the achylias we have found the use of the acid fruits and fruit juices efficacious. A whole grapefruit is prescribed for breakfast and a glass of lemonade with the other two meals. Custom decrees that grapefruit should be eaten first at breakfast. This places a fairly large amount of acid material in the stomach first, which should help regulate the emptying time of the stomach if the theories about the alkali-acid response of the pyloric sphincter are correct. About two ounces of lemon juice are prescribed for each glass of lemonade. The patients are instructed to drink one-third of the lemonade before beginning the meal, and to sip the remainder as the meal is eaten. The grapefruit and lemonade may be sweetened to taste, since sugar does not neutralize acid, and since it is desirable for its caloric value in the underweight cases. A glass of orange juice may be added to the breakfast if desired, and buttermilk may be used in place of sweet milk. Lemon juice or vinegar should be used with salads or fish. Pickles may be eaten with meat courses. Some of these patients seem to tolerate sauerkraut when cabbage causes distress. On camping trips, when the citrus fruits are not available, a teaspoonful of dry citric acid may be used to make an artificial lemonade. Some patients prefer to mix the lemon juice or grapefruit juice with orange juice. In infant feeding, buttermilk or lactic-acid milk is often used. In our earlier work, we had a malnutrition patient who was always better when she went to France, where she drank the native sour wines.

Not much dilute hydrochloric acid is given, because we do not believe that enough can be given to do any particular good, without harming the patient. All hydrochloric acid given must be passed in the urine. It does not necessarily produce an excessively acid urine, because the human kidney has the ability to compensate by increasing its ammonia output. The hydrogen-ion concentration of the urine may not change much, but the total acids, that is, the titratable acidity plus the ammonia, are increased. Occasionally, five to ten drops of hydrochloric acid are given three times per day, with the acid fruits and fruit juices, to patients with achylia, but whether such small amounts have any beneficial effect is not known.

Pepsin: Laboratory studies show that at the same pH pepsin works just as well in a citric medium as in a hydrochloric-acid medium. Ivy[3] has shown citric acid to be an efficacious stimulant to secretin formation.

Pepsin is easily supplied in the form of two-grain tablets three times per day after meals, or in the form of the palatable elixir of lactated pepsin. Since U.S.P. pepsin will digest 3000 times its weight of protein, the dose need never be larger than one or two grains three times a day. This never seems to do any harm. We have given as high as fifteen grains of pepsin three times a day, but such large doses seem to cause vague gastro-intestinal symptoms.

Bile Salts: Theoretically, bile salts should be beneficial in the emulsification of fats, if the bile is diminished, but such cases are rare and we have had no experience with the use of bile salts.

Pancreatin: When insulin made possible the use of adequate diets in the treatment of diabetes, in a few cases we encountered such grave digestive disturbances that the patients were much more comfortable on their restricted diets than when fed more food. Indigestion from a probable lack of pancreatic juice is not very common, however, in diabetes. In one of our first cases of this type, because large amounts of undigested foods were found in the stools, we concluded that not only the Islands of Langerhans were involved, but that there was probably also a sclerosis of the whole gland. This patient was given ten-grain capsules of pancreatin with such satisfactory results that in due time he gained to a normal weight with an entire absence of his symptoms of indigestion. Similar capsules of pancreatin were tried on other cases of diabetes with indigestion, without success. It was then found that our first patient had an achlorhydria and that our next patients had normal stomachs. We assumed that a normal stomach made inactive or destroyed the pancreatin, although some believe that it is only inactivated and that it may become active again in the small bowel. We

then sought an enteric-coated pancreatin.* The efficacy of the coating was proved in the following manner: The experimental coating was placed on a substance opaque to the x-ray, such as bismuth. Two coated tablets were given to a patient each hour and immediately followed by an x-ray picture. The last two taken, sometimes with a little powdered barium, would locate the stomach, when the condition and position of the ones taken before could be noted. By this method we proved that the coating was intact as long as the tablets remained in the stomach, but that it soon dissolved after the tablets reached the small bowel.

The enteric-coated five-grain pancreatin tablets were given, not only to diabetic patients with probable indigestion of pancreatic origin, but to many other patients with a similar form of indigestion, with excellent results. They were also given to completely depancreatized dogs, in conjunction with insulin hypodermically, with excellent results from a nutritional standpoint.

Eventually, instead of using the U.S.P. strength of pancreatin, which will digest 25 times its weight of carbohydrate and protein, triple strength pancreatin was used. This product is known as the Panteric tablet, triple strength. Later on, tiny granules of pancreatin were coated with the same type of coating and were dispensed in five-grain capsules. We have not as yet devised a way of visibly proving the efficacy of the coating on the granules, as we did with the tablets, but clinically they seem to be somewhat better than the tablets. Each five-grain capsule contains about 200 coated granules of pancreatin. The gelatin capsule is merely a container and dissolves in the stomach, permitting the coated granules to mix with the food. As they pass with the food into the small bowel, they afford about 200 foci from which digestion can take place, instead of one, as with the tablet. The capsules are known to the drug trade as Panteric Capsules.

We have repeatedly tested the strength of the pancreatin used in both the tablets and the capsules. The granules are ground in a mortar to remove the coating. Usually, the pancreatin supplied would digest 100 times its weight of carbohydrate and protein *in vitro*. Three five-grain tablets, or capsules containing five grains of triple-strength pancreatin, will theoretically digest from 75 to 100 grams of carbohydrate and protein.

At the present time, a few carefully-controlled experiments are being carried on to determine the exact role which pancreatin plays. During the first, or controlled, period of six weeks to two months, the patients are given careful diets together with any other indicated form of treatment except the pancreatin. In the second period, pancreatin is added. These reports will be published later.

Taka diastase: Takamine succeeded in making a concentrated form of diastase from the fungus Aspergillus oryzae. This was placed on the market under the trade name taka diastase. This form of diastase will digest 300 times its weight of starch. It was said to work in both acid and alkaline media.

We still had a number of patients who, even while taking the enteric-coated pancreatin, could not take a normal amount of starch without having abnormal amounts of abdominal gas, suggesting that they still had a limited ability to digest starch. Our first efforts were directed toward making a pancreatic preparation which would digest more starch. This can be done, but the preparation is of only theoretical value, because the cost of its preparation is prohibitive. Taka diastase tablets and the elixir of taka diastase were then tried, with only an occasional successful result. The taka diastase seemed to help those patients with hypochlorhydria and achlorhydria to whom the acid fruits and fruit juices had been given. Ohlsson and Swaetichin[2] found that "taka diastase loses its power to hydrolyse starch in acid or alkaline solution (below pH 2.0 and above pH 11.5), but on neutralization the activity slowly returns. The enzyme has a maximum stability between pH 5 and pH 9. Reactivation in neutral solution (pH 6.7) is generally complete in an hour, but both inactivation and reactivation are delayed by the presence of starch and accelerated by phosphate. Taka diastase acts between pH 2.5 and pH 8.0, with an optimum zone between pH 4.5 and pH 6.5. Although taka diastase is inactivated in the acid stomach, it is slightly more effective than malt diastase, and under normal conditions the enzyme will become reactivated in the intestine."

In our own laboratory, we found that the action of taka diastase was completely inhibited in the presence of a concentration of hydrochloric acid such as is found in a normal stomach, but that its digestive power was unchanged in the presence of a concentration of citric acid pH 3, such as we are using in the treatment of achlorhydria.

Enteric-coated granules of taka diastase were then

* Generous amounts of Panteric tablets, Panteric capsules, and capsules containing enteric coated granules of taka diastase were supplied to us for clinical trial by Parke, Davis & Company, for all of the initial experimental work.

supplied to us. This material was put up in the form of five-grain capsules. Clinically we have found the taka diastase capsules, either alone or in conjunction with the panteric capsules, valuable where patients complain of abdominal gas.

Summing up, depending upon the clinical and laboratory findings, a patient with indigestion is given an individualized diet together with one or more of the following digestive agents: acid fruits and fruit juices, pepsin, enteric-coated pancreatin, and enteric-coated taka diastase.

UNDERWEIGHT

Fairly satisfactory average weight tables based on age and height are available in all standard books on nutrition. The United States Public Health Service says that the weights given on weight charts are only general and that allowances must be made for each individual case. For instance, a person with small bones, of certain age and height, would weigh less than a person of similar age and height with large bones. It is believed that a person up to 30 years of age should be a few pounds overweight rather than underweight, and a person over 30 years of age should be a few pounds underweight.[3] Some nutritionists claim that ideal and average weight tables agree fairly well up to 30 years of age, but that the average weight tables past 30 years of age are usually too high.

For a number of years, we have been using the average weights for the age of 30 for recommended weights past 30. The following tables seem to be satisfactory from a clinical standpoint:

Recommended weights for women 30 or more years of age.

Height (ft. & in.)	Weight	Height (ft. & in.)	Weight
4- 8	112	5- 4	131
4- 9	114	5- 5	134
4-10	116	5- 6	138
4-11	118	5- 7	142
5- 0	120	5- 8	146
5- 1	122	5- 9	150
5- 2	124	5-10	154
5- 3	127	5-11	157
		6- 0	161

Feet and inches with shoes. Weight with clothes.

Recommended weights for men

5- 0	126	5- 9	156
5- 1	128	5-10	161
5- 2	130	5-11	166
5- 3	133	6- 0	172
5- 4	136	6- 1	178
5- 5	140	6- 2	184
5- 6	144	6- 3	190
5- 7	148	6- 4	196
5- 8	152	6- 5	201

Feet and inches with shoes. Weight with clothes.

ETIOLOGICAL FACTORS

The causes of underweight are numerous and the following classification includes the more important groups:

A. Contributory causes.
   1. Poverty
   2. Ignorance, indulgence, fads
   3. Poor home habits, such as promiscuous and irregular eating, no breakfast, etc.

B. Direct causes.
   1. Hygiene.
      a. Lack of sleep.
      b. Overwork.
      c. Insufficient exercise.
      d. Inadequate diets.
   2. Heredity.
      a. Constitutionally thin.
      b. Physical build.
   3. Diseases.
      a. Chronic pyogenic infections.
      b. Tuberculosis.
      c. Syphilis.
      d. Intestinal parasites, ameba.
      e. Cancer, sarcoma, leukemia.
      f. Allergy.
   4. Endocrine dysfunction.
      a. Hyperthyroidism.
      b. Hypothyroidism.
      c. Adrenal insufficiency.
      d. Hypoinsulinism, diabetes.
   5. Imperfect digestion and absorption.

THE TREATMENT OF UNDERWEIGHT BY IMPROVING DIGESTION

It is the purpose of this paper to discuss only that phase of the underweight problem which is related to imperfect digestion and absorption. We are not unmindful of the other causes, which we always attempt to correct, and it may be that some of the results which we have obtained should be credited in part to the correction of such things as poor hygiene, specific treatment of diseases, and endocrine treatment where indicated, if available. Carefully planned individualized written diets were arranged for all patients, and some of the credit must be attributed to them. We feel very certain that chronic pyogenic infections play an important part in the underweight of both children and adults.

Suppose we have a patient who is seriously underweight, and who has a hypochlorhydria or an achlorhydria with diminished peptic power, or an achylia, together with symptoms of intestinal indigestion. Such a patient is placed on a gaining-in-weight diet,

usually beginning with the cooked fruits and vegetables, because cooking seems to make fruits and vegetables more easily digested. If there is any tendency toward loose bowels, the amount of the coarser foods is limited. The acid fruits and fruit juices are served with each meal to compensate for the lack of acid. Two grains of pepsin are given with each meal to make up for the pepsin deficit. One five-grain capsule each of the enteric-coated granules of pancreatin and taka diastase are given after each meal. The patient is then placed under observation, preferably in the hospital, where the total food eaten can be carefully checked, and where minor adjustments can be made as needed.

Many of these underweight patients with the various forms of indigestion have, in the beginning, a diarrhea or frequent loose stools. Sometimes it is necessary to begin with a non-residue diet. One drachm of equal parts of calcium carbonate and bismuth subcarbonate, or one drachm of powdered drop chalk may be given. Calcium carbonate seems to soothe the irritated bowel and slow up the intestinal rate. There are theoretic reasons for assuming that patients who have had constant diarrhea may have a depleted calcium reserve, although the blood calcium is normal, since a rapid intestinal rate would interfere with the absorption of calcium, and the acid urines, which such patients have, would increase the calcium output in the urine. Aub[4] has shown that an increased ammonia output is always associated with an increase in the calcium of the urine. The calcium should help, in proportion to the amount absorbed, to restore the depleted calcium balance. Sometimes a few drops of the tincture of belladonna three times per day helps to lessen bowel irritabliity. When patients are troubled with sleeplessness or hypertension, one-half grain of phenobarbital three times per day seems to help the bowel irritability and sleeplessness, as well as the hypertension.

THE TREATMENT OF ALLERGY BY IMPROVING DIGESTION.

Allergy is a condition in which various tissues of the body have become sensitized to foreign proteins. It has many clinical manifestations, such as hives or urticaria, vasomotor rhinitis, food eczema, hay-fever, food asthma, bronchial asthma, angioneurotic edema which may involve the intestinal tract as well as external parts, certain types of headaches, joint disturbances simulating chronic arthritis, and serum sickness. Serum sickness is the simplest form of allergy to explain, since the foreign protein which is associated with the various antitoxins is injected with them. Duke[5] made the interesting observation that guinea pig, which had been sensitized to egg white, did not experience an anaphylactic shock when egg white was fed. If, however, castor oil were given following the feeding of the egg white, a typical shock followed. He believed that the castor oil prevented the digestion of the protein molecule, which was absorbed whole or in an incompletely digested state. This experiment led us to believe that food asthma might be due to protein indigestion.

In 1925 a mother brought her son, age 13, to us with an extremely severe case of food asthma complicated by food eczema. The patient had been seen in Boston, where the diagnosis was made. He had temporarily improved when certain foods, to which he had been found sensitive by a skin test, were eliminated from his diet. He was next seen in New York, where a longer list of foods were eliminated, again with only temporary improvement. The Boston and New York lists of offending foods were not the same, since the patient had lost sensitiveness to some of the foods which had been omitted first, but had become sensitive to others. He was then taken to Colorado Springs in the hope that altitude might help the asthma. There he was found sensitive to practically all common foods. California was next sought, but the patient grew steadily worse. He was brought to us for diet advice. His mother stated that, since he was sensitive to all common foods, she was feeding him a mixed diet, asserting that if she omitted all offending foods he would die from starvation. No skin tests were made by us, but on the theory that both his food asthma and food eczema might be due to protein indigestion and subsequent absorption and sensitization, we gave him the then new enteric-coated pancreatin tablets described above. His improvement was satisfactory. At the present time he is at Harvard University. He still has both asthma and urticaria when he fails to take digestive help.

The success in this case led us to make a careful study of all allergic cases from a digestive standpoint, and to use generously the digestive aids in all such cases, with excellent clinical results as evidenced by general clinical improvement and a decrease to the vanishing point of the skin reactions. The digestive help must be continued over a long period of time. Whenever it is discontinued for a time the allergic symptoms usually recur.

From a theoretical point of view, one might assume that hay-fever might be due to the incomplete digestion of pollens swallowed with the food. A careful study of hay-fever patients usually shows that they have other manifestations of allergy, and

that they improve clinically, as other allergic patients do, with digestive help.

In bronchial asthma, patients are usually sensitive to bacterial proteins. A careful study of these patients also usually reveals that they have other types of allergy to a minor degree. They might become sensitive to the bacterial proteins which they swallow with the secretions from the nose and throat. We have had excellent results by combining indicated digestive help with other forms of standard treatment. In bronchial asthma, we eliminate all possible sources of infection, such as tonsils, dead teeth, and sinus infections. We teach these patients to lead quiet physical lives. We feed limited diets in the beginning and add more food as breathing permits. Occasionally, respiratory vaccines are used. Improvement in such cases is not as rapid as with the food-sensitive cases, but on the whole the digestive aids seem to offer one more therapeutic measure.

In general, in treating allergic patients, all of the standard things are done as usual, except that immunization is not attempted. In the food-sensitive cases, elimination diets are used, considering both the skin tests and clinical trial of suspected foods. In addition to the digestive aids discussed above, bismuth and chalk, or chalk alone, is used to slow up a too rapid intestinal rate, if such a condition exists. Generous amounts of calcium are given by mouth and intravenously. Antispasmodics are employed as needed.

1	Allergic migraine	1	(100%)	improved	
5	Angioneurotic edema	4	(80%)	improved	1 (20%) unimproved
34	Bronchial asthma	30	(88%)	improved	4 (12%) unimproved 3 uncooperative
12	Food asthma	11	(92%)	improved	1 (8%) unimproved
42	Food eczema	35	(83%)	improved	7 (17%) unimproved
19	Hay-fever	15	(80%)	improved	4 (20%) unimproved 1 uncooperative
5	Intestinal allergy	5	(100%)	improved	
1	Joint allergy	1	(100%)	improved	
11	Loose bowels	11	(100%)	improved	
54	Normal weight	Weights stayed constant			
29	Overweight	27	(93%)	lost weight	2 (7%) did not lose
197	Underweight	178	(91%)	gained	19 (9%) did not gain 4 uncooperative
29	Urticaria or hives	24	(86%)	improved	5 (14%) unimproved 2 uncooperative
4	Vasomotor rhinitis	3	(75%)	improved	1 (25%) unimproved

In England, Stevens[8] has come to conclusions very similar to ours concernnig the association of other forms of allergy with bronchial asthma. His patients are very frequently sensitive to milk. He says, discussing the treatment, that "digestants are given, such as papain combined with iridin and pepsin; but the preparation which I have found most efficacious is the panteric tablet which dissolves in the alkaline secretions of the lower bowel; two tablets after each meal, although one is occasionally sufficient."

In further support of the theory that asthma might be due to the absorption of and sensitization to foreign proteins, the Asthmatic Research Council of Great Britain reported "the isolation from the urine of a proteose substance which, when applied to the patient's skin, produced wheals. Injected into the patient from whom it is derived, in doses of one ten-millionth gram, acute attacks of asthma may be induced, whereas large doses have no effect on an unsensitized person. But proteose from one asthmatic person usually produces no effect in another. After a course of gradually increasing doses of proteose to an asthmatic person, the positive dermal reaction disappears and at the same time he improves clinically. An overdose will produce a severe attack of asthma and aggravate any skin lesion, such as eczema or urticaria."

SUMMARY

During the preparation of this paper we have been able to contact 280 of our patients that come under the classification of indigestion, underweight, and allergy. Summarized according to weight, twenty-nine of the 280 patients studied were overweight, fifty-four were normal weight, and 197 were underweight.

The following chart contains a summary of the results in percentages:

In this group there were 152 instances of allergy, of which 129, or 85 per cent, improved; twenty-three, or 15 per cent, did not improve; and nine did not follow the plan outlined. Of the 143 who followed the plan, 129, or 90 per cent, improved, while fourteen, or 10 per cent, did not improve.

Of the 178 patients who reported a gain in weight, 131 told how much weight they had gained. This

gain varied from 1 to 40 pounds, and averaged 12.6 pounds per patient.

CONCLUSIONS

1. Errors in digestion on an organic basis are fairly common.

2. Simple, harmless digestive aids are now available and when used afford worthwhile benefit.

3. Chronic underweight may be due to the inability to digest enough food.

4. Such patients, when given suitable digestive aids, such as citric acid, pepsin, enteric-coated pancreatin and taka diastase, as indicated, together with an adequate diet, improve in a very satisfactory manner.

5. All forms of allergy may be due, in part at least, to the inability to completely digest the complicated protein molecule, the absorption of which may cause sensitization.

6. Allergic patients usually improve slowly but surely when given protein digestive aids.

CASE REPORTS

INDIGESTION—GASTRO-ENTEROSTOMY

Case No. S05699, Mr. H. R., first seen August 5, 1929. Male; age 41; weight, 131 lbs., ideal weight 158 lbs.

Diagnosis: Underweight, indigestion, "neurasthenia," devitalized septum, and devitalized teeth.

History: Life-long history of underweight. Had had two gastric ulcers, five years previous, for which a gastro-enterostomy was done. Patient a high-strung nervous individual, tired easily, and was unable to gain weight.

Examination: Essentially negative except for the underweight, devitalized septum, and dead teeth. Urine negative; hemoglobin 95 per cent; Ewald, 36 free HCl, 45 total acid.

Treatment: Gaining diet with six feedings per day; one capsule pancreatin after each meal and feeding.

Results: Feb. 1, 1932—Patient reported had rapidly gained in weight up to 155 lbs. Took the capsules for two or three months and felt that they helped him a great deal. Stated he had never felt so well in his life; felt like a new man. No "neurasthenia."

UNDERWEIGHT

Case No. H-19485, Mrs. H. B., first seen Aug. 13, 1929. Female; age 53; weight 85 lbs., ideal weight about 120 lbs.

Diagnosis: Underweight, constipation, indigestion, psychasthenia, headaches, vasomotor rhinitis.

History: Patient had never been well, had had numerous backaches, several abdominal operations. Had been confined to bed for 11 weeks prior to coming to the Clinic.

Examination: Aside from underweight and operative scars, physical examination was essentially negative. Blood pressure, 120/70. Urine negative; hemoglobin, 78 per cent; R.B.C., 3,750,000; W.B.C., 8,350; Ewald, 26 free HCl, 52 total acid; stools, negative.

Treatment: Gaining, anti-constipation diet; 2 panteric capsules three times a day, after food; sodium citrate gr. 20 three times a day, after food. Was also given various types of sedatives together with various forms of physiotherapy.

Results: During a ten-weeks' stay in the hospital, patient gained in weight from 85 lbs. to 114 lbs. Left hospital improved in every way; sleeping well and very much less nervous. Feb. 22, 1932: Patient still somewhat nervous, as she probably always will be. Weight 113 lbs. Was still conscious of her bowels. Hemoglobin, 86 per cent; R.B.C., 5,000,000; W.B.C., 9,000.

Advised patient to continue with digestive help and to use a drachm of equal parts bismuth and chalk for abdominal distress.

URTICARIA

Case No. H-15952, Mrs. A. E. R., first seen July 24, 1928. Female; age 35; weight normal, 128 pounds.

Diagnosis: Severe urticaria with large wheals covering almost entire body.

History: Life-long history of hives. No family history of allergy.

Examination: Essentially negative. Hemoglobin, 77 per cent; R.B.C., 4,020,000; W.B.C., 6,250; Ewald, free HCl 0, total acid 15; skin test, plus-minus to plus, to 30 of the 60 proteins used.

Treatment: Normal diet; acid fruits and fruit juices; soda baths; calamine lotion; 2 panteric capsules three times a day, after food; calcium lactate, grains 20, three times a day, after food.

Results: Patient slowly but steadily improved until urticaria had entirely disappeared. She has experimented a number of times by stopping the pancreatin, but eventually the urticaria always returns. February 26, 1932, patient came into the hospital because of herpes zoster. She had had no urticaria for a long time. Skin tests showed no positive reactions. A test meal was unsuccessfully attempted. Patient has continued to use the panteric capsules and the acid fruits and fruit juices.

URTICARIA

Case No. S10149, Master J. A., first seen August 25, 1931. Male; age 14; weight 85 lbs., ideal weight 108 lbs.

Diagnosis: Urticaria, eczema, asthma, underweight.

History: Life-long history of allergy. Usually better when beans were omitted from diet. Anxious to gain weight.

Examination: Undernourished boy, not acutely ill. Urine, negative; hemoglobin 82 per cent; R.B.C., 5,370,000; W.B.C., 4,250; Ewald, 18 free HCl, 28 total acid; skin test positive to 2 foods, kidney beans and wheat; B. M. R. plus 2, and minus 6.

Treatment: Gaining diet; acid fruits and fruit juices; 2 panteric capsules three times a day, after food.

Results: Jan. 24, 1932, patient had gained in weight from 85 lbs. to 98 lbs., and had practically no allergy.

FOOD ECZEMA

Case No. T-17776, R. C., first seen Sept. 5, 1928. Male; age 2; normal weight.

Diagnosis: Severe acute eczema, bronchial asthma, chronic infected tonsils.

History: A generalized eruption began at 4 months of age, developed very suddenly, and always itched to such an extent that the baby's sleep was seriously interrupted. A change from cow's milk to goat's milk did not benefit the child. Cod liver oil did not seem to help. Ultra-violet light was used with no beneficial results. The constant use of calamine lotion afforded relief. The father had bronchial asthma.

Examination: Male child with a weeping eczematous eruption covering practically the entire body, including the scalp. Tonsils were large and grossly infected, but the father refused permission to remove them.

Treatment: Patient was in the Cottage Hospital

from Sept. 5, 1928, to April 1, 1929. Was given a normal diet low in fat; the contents of one panteric capsule three times a day, after food; soothing lotions, such as calamine or Lassar's paste. The lotions or salves were removed with oil, no soap was used in bathing the child.

Results: Slow but steady improvement, until the eczema had entirely disappeared. Patient is now six years old; has taken the panteric capsules continuously. Has been seen many times and, aside from an occasional small dry itching spot, he has had no recurrence of his serious eczema. Asthma seems to be cured.

FOOD ECZEMA

Case No. S08525, Mrs. W. J. R., first seen June 9, 1931. Female; age 56; weight 132 lbs., ideal weight 131 lbs.

Diagnosis: Food eczema, chronic constipation spastic colitis.

History: For five years, patient had had attacks of extreme itching in the groins and vulva. At times she had the same skin irritation between the breasts, under the arms, and on right palm of hand. Had been constipated for forty years. Had hives severely when a child.

Examination: Well-nourished adult female. Eczema on examination was limited to hair on groins. Urine negative; hemoglobin 85 per cent; R.B.C., 3,960,000; W.B.C., 6,500; Ewald 50 free HCl, 95 total acid; skin test positive to 26 foods.

Treatment: Semi-alkaline, anti-constipation diet, eliminating the 2 plus and 3 plus foods; 2 panteric capsules three times a day, after food; calcium lactate gr. 10 three times a day, after food.

Results: April 14, 1932, patient said she had been very well, only experiencing an upset occasionally when she discontinued the capsules or violated the diet. Discontinued the capsules about four months prior, when her indigestion returned; resumed the capsules and had had no further trouble Eczema seemed to be cured.

ANGIONEUROTIC EDEMA

Case No. H-14955, Mr. J. R. L., first seen March 15, 1928. Male; age 35; weight 180 lbs., ideal weight 150 lbs.

Diagnosis: Angioneurotic edema, overweight.

History: Patient had had periodic swelling of the face over a period of seven years. First attack began at two o'clock one morning. The following day, the face and neck began to swell and kept swelling for three days, finally becoming so bad his eyes were entirely closed and he had difficulty in breathing. Was in bed for two weeks. Epinephrine injections were used. Nine months later, had a similar attack. When seen by us, was having attacks at intervals of about two months.

Examination: Negative except for overweight. Patient had a soft puffy swelling, especially about the mouth and throat. Skin tests showed reactions to fish, veal, eggs, spinach, and lettuce. Ewald free HCl 3, total acid 20.

Treatment: 1000 calorie reducing diet consisting of 133 grams carbohydrate, 64 grams protein, and 24 grams fat; acid fruits and fruit juices; 2 panteric tablets after each meal and at bed time; sodium bicarbonate, grains 10, three times a day, after food.

Results: Patient recovered from this attack in about one week. Twenty-six months later, reported no attacks since last seen; weight 161 lbs.; skin tests all frankly negative; Ewald free HCl 28; total acid 36. Gave patient semi-alkaline maintenance diet, with the acid fruits and fruit juices, and advised the panteric capsules in place of the tablets, 1 after each meal and at bed time. June, 1931: patient had had no attacks of angioneurotic edema and was still taking the panteric capsules.

ALLERGIC INDIGESTION

Case No. S08617, Master C. S., first seen June 30, 1931. Male; age 5; weight 40 lbs., ideal weight 41 lbs.

Diagnosis: Allergic indigestion, septic tonsils, pulmonic stenosis.

History: Patient was a premature child, birth weight 4½ lbs., was not breast fed, had Mellin's Food for first year. When solid food was started, undigested food appeared in the stools and patient had had difficult digestion ever since. At 2½ years, the glands of the neck were swollen. This was associated with and followed by frequent colds. Tonsilectomy was advised. Patient had always had a tendency to diarrhea. Loss of appetite was always associated with loose bowel movements, as if patient were poisoned.

Examination: Fairly well-nourished child, not acutely ill, but pale and listless. Urine negative; hemoglobin 84 per cent; R.B.C., 4,900,000; W.B.C., 5,000; skin tests negative to all foods that patient was eating.

Treatment: Normal diet suitable for child 5 years of age, limiting residue-containing foods to 300 grams per day; 1 panteric capsule three times a day, after foods; advised removal of tonsils.

Results: Seven months later, mother wrote tonsils were removed the previous summer and patient in decidedly good health. Digestion greatly improved, and stools normal. Said the digestive capsules were "marvelous." Had given them to the child for two months. Tonsils were not removed until patient had gained in weight and strength.

ALLERGIC RHINITIS

Case No. S08461, Mrs. A. P., first seen August 3, 1931. Female; age 65; weight 91½ lbs., ideal weight 122 lbs.

Diagnosis: Allergic rhinitis, myocardial insufficiency, mitral stenosis, chronic constipation, underweight, enteroptosis, septic tonsils, arthritis.

History: Patient said she had had kidney disease for four years. This was discovered after an attack of influenza complicated by pneumonia, which in turn was followed by heart trouble. Patient had very little energy; had taken many cathartics for stubborn constipation.

Examination: Poorly nourished white female who looked older than her stated age. Heart 61 per cent of the inside diameter of the chest; blood pressure 124/68. Urine contained no albumin, P.S.P. 75 per cent; modified Volhard, 1.016, 1.018, 1.014; Ewald, 37 free HCl, 52 total acid; hemoglobin 86 per cent; R.B.C., 4,550,000; W.B.C., 5,100; skin test positive to 7 grass pollens.

Treatment: Gaining, anti-constipation diet, beginning with about 2000 calories; 1 capsule each of pancreatin and taka diastase three times a day, after food; because of arthritis, the removal of foci of infection was advised when patient became better; hydrotherapy was advised for the present.

Results: March 22, 1932, patient wrote, present weight 98 lbs. Took the capsules for several months and felt great benefit. Eventually stopped the taka diastase and continued the pancreatin alone and is now feeling very well. Has no allergic rhinitis, and arthritis is better, although foci of infection not removed.

ALLERGIC MIGRAINE

Case No. S06146, Mrs. G. J. B., first seen Dec. 3, 1930. Female; age 37; weight 157½, ideal weight 136 lbs.

Diagnosis: Allergic migraine, right sacro-iliac strain, obesity, hypothyroidism.

History: Patient had had very severe headaches practically all her life. Backache was fairly severe.

Examination: Adult female, somewhat overweight.

Blood pressure 110/80. Urine negative; hemoglobin 90 per cent; R.B.C., 4,280,000; W.B.C., 7,800; Ewald, 22 free HCl, 28 total acid; skin test positive to 10 foods; B.M.R. minus 22.5.

Treatment: 800-calorie elimination diet; sodium citrate, gr. 30, three times a day, after food; 1 panteric capsule three times a day, after food; enteric-coated thyroid, gr. 2, daily; orthopedic treatment for sacro-iliac strain.

Results: Nov. 10, 1931, patient reported for check-up. Headaches had practically disappeared except when under unusual strain. Had reduced in weight from 157 lbs. to 132 lbs. Had stopped the thyroid when basal rate reached plus 10. Was skin sensitive to only 2 foods. Advised ½ grain thyroid after breakfast followed by basal rate later; 1 panteric capsule three times a day, after food.

JOINT ALLERGY

Case No. S05803, Mr. L. T., first seen May 9, 1929. Male; age 35; weight 148 lbs., ideal weight 178 lbs.

Diagnosis: Underweight, constipation.

History: Chief complaint was discomfort over stomach. Previous x-rays showed no evidences of stomach or gallbladder pathology.

Examination: Essentially negative except for underweight. Hemoglobin 91 per cent, urine negative; Ewald showed low acid; x-rays showed no pathology in the gallbladder or the gastro-intestinal tract.

Treatment: Gaining diet; 1 panteric capsule three times a day, after food; acid fruits and fruit juices.

Results: Aug. 12, 1931, patient still underweight and had a peculiar type of joint pains. A diagnosis of probable joint allergy was made. Ewald showed 23 free HCl, 36 total acid. Skin test positive to foods, pollens, feathers, and hairs.

Treatment: Advised 2500-calorie elimination gaining diet; 2 panteric capsules, and calcium lactate gr. 10, three times a day, after food; 30 gr. dry citric acid three times a day, after food, in water. Protein-free citric acid was given because patient was sensitive to lemons and grapefruit.

Results: April 2, 1932, patient wrote that he was very much better in every way, had had only one or two mild attacks of swollen joints; was faithfully following diet outlined, taking only panteric capsule after each meal.

HAY-FEVER

Case No. S08124, Mrs. E. J. C., first seen June 15, 1931. Female; age 26; weight 122 lbs., ideal weight 140 lbs.

Diagnosis: Hay-fever, hives, chronic constipation, neurasthenia.

History: Patient had had hay-fever for seven years. Had been skin tested and found sensitive to many foods and pollens. Attempts at immunization had been made without result. Had had indigestion periodically all of her life.

Examination: Fairly well-nourished white female, not acutely ill, but very nervous. Urine negative; hemoglobin 89 per cent; R.B.C., 4,500,000; W.B.C., 4,500; Ewald, 55 free HCl, 77 total acid; B.M.R., minus 4; skin test positive to 36 proteins.

Treatment: Semi-alkaline diet, eliminating the 2 plus and 3 plus foods; 2 panteric capsules three times a day, after food; calcium lactate gr. 10, three times a day, after food.

Results: Six months later, patient was skin-sensitive to twenty-one foods. Five months after that, was sensitive to twenty-nine foods, thirteen of which were very questionable. At this check-up, aside from occasional attacks of hives and mild hay-fever, was feeling very much better. Advised that since she was improving she continue with the program outlined.

HAY-FEVER

Case No. S05087, Mr. R. W. B., first seen Dec. 9, 1929. Male; age 28; weight 123 lbs., ideal weight 141 lbs.

Diagnosis: Hay-fever, asthma, achlorhydria, intestinal indigestion, protein sensitization, underweight, secondary anemia.

History: Patient complained of loose bowel movements and considerable rumbling in the abdomen. Cathartics seemed to give relief although bowels were loose. Had seasonal hay-fever and was sensitive to many foods and pollens. Lost weight when given an elimination diet for the asthma which accompanied his hay-fever.

Examination: Essentially negative except for the underweight. Urine negative; hemoglobin 75 per cent Talquist; Ewald, 0 free HCl, 17 total acid; skin test positive to three foods.

Treatment: Gaining diet; acid fruits and fruit juices; 2 panteric capsules three times a day, after food.

Results: Dec. 14, 1931, patient had gained in weight to 140 lbs., but had recently lost 3½ lbs. Was having no symptoms of hay-fever or asthma; bowels were loose occasionally. Ewald test meal showed 23 free and 40 total acid; hemoglobin 102 per cent; R.B.C., 5,560,000; W.B.C., 6,850. Was advised to continue with normal diet, bulk limited to 500 grams; pancreatin; acid fruits and fruit juices; and a drachm of equal parts bismuth and chalk, three times per day.

BRONCHIAL ASTHMA

Case No. S10180, Mrs. F. S. F., first seen Aug. 31, 1931. Female; age 63; weight 153 lbs., ideal weight 126 lbs.

Diagnosis: Bronchial asthma, chronic tonsillitis, overweight.

History: Patient had had asthma for fourteen years, probably due to upper respiratory infections.

Examination: Overweight adult female, not acutely ill. Blood pressure, 155/90. Tonsils medium sized, pus expressed from both. Urine negative; hemoglobin 86 per cent; R.B.C., 5,400,000; W.B.C., 8,350; Ewald, 28 free HCl, 54 total acid; B.M.R., minus 5; skin test positive to six fodos.

Treatment: 1000-calorie reducing diet; 2 panteric capsules three times a day, after food; thyroid gr. 1 daily.

Results: March 28, 1932, patient gradually lost in weight to 130 lbs. when she felt very well, had no asthma, still taking 2 panteric capsules three times a day, after food, and 1 gr. thyroid daily. Maintenance diet prescribed.

BRONCHIAL ASTHMA

Case No. S08602, Master E. S., first seen May 19, 1931. Male; age 7; weight 60 lbs., which was ideal.

Diagnosis: Bronchial asthma, acute rhinitis.

History: Patient had had attacks of asthma since 2 years of age.

Examination: Essentially negative except for asthmatic condition. Tonsils had been removed. Urine negative; hemoglobin 87 per cent; R.B.C., 4,460,000; W.B.C., 8,100; skin test positive to fifteen proteins.

Treatment: Semi-alkaline elimination diet; 1 panteric capsule and calcium lactate gr. 10, three times a day, after food.

Results: Aug. 13, 1931, mother wrote that patient had been free from asthma for three months, when it recurred with a cold. Child now entirely free from asthma.

BRONCHIAL ASTHMA

Case No. S07306, Mr. J. B. W., first seen Jan. 15, 1930. Male; age 49; weight 138 lbs., ideal weight 155 lbs.

Diagnosis: Bronchial asthma, constipation, left inguinal hernia.

History: Patient had had asthma for twelve years. Three years ago, had had tonsils removed, which seemed to help a little.

Examination: Essentially negative except for the underweight. Urine negative; skin tests positive to fifty-two foods, pollens, and hairs; Ewald test meals done elsewhere showed normal stomach content.

Treatment: Anti-constipation gaining diet; 2 panteric capsules and sodium citrate gr. 20, three times a day, after meals. Elimination diet impossible in this case because patient was sensitive to so many proteins.

Results: March 2, 1932, patient wrote that, after following plan of treatment for a few weeks, the attacks of asthma suddenly disappeared. Continued the pancreatin for about six months, then stopped it for fifteen months and had no severe attacks, only a little hard breathing or wheezing at times. Last summer, did not feel so well and consulted an asthma specialist who gave him a "liquid medicine" which made him worse. He discontinued this medicine and started the panteric capsules and the sodium citrate again, and was again well in about a month. Has had no attacks since.

BRONCHIAL ASTHMA

Case No. S05493, Mrs. E. L., first seen Oct. 17, 1929. Female; age 38; weight 101 lbs., ideal weight 132 lbs.

Diagnosis: Bronchial asthma, deafness.

History: Patient came in complaining of bronchial asthma, underweight, deafness, and a skin rash of urticarial nature.

Examination: Poorly nourished adult female. Urine negative; hemoglobin 100 per cent; R.B.C., 5,100,000; W.B.C., 10,300; Ewald, 18 free HCl, 72 total acid; skin test negative.

Treatment: Patient was given 1500-calorie diet to be increased as asthma improved; 2 panteric capsules three times a day, after food; was advised to lead a fairly quiet life.

Results: April 1, 1932, patient wrote that she had gained up to normal weight of 132 lbs., could eat anything she pleased, and had no asthma. In the beginning, the rash was stubborn, improving for a time and then breaking out again, but, after a year of the capsules and diet, it entirely disappeared. Is not taking the capsules at present.

BRONCHIAL ASTHMA

Case No. S10238, Miss J. L. P., first seen Sept. 14, 1931. Female; age 49; weight 100 lbs., ideal weight 136 lbs.

Diagnosis: Bronchial asthma, underweight, chronic constipation.

History: Patient had had varying degrees of hives and asthma since childhood. Had been constipated all her life. At no time had she ever weighed over 118 lbs.

Examination: Essentially negative except for underweight. Urine negative; hemoglobin 83 per cent; R.B.C., 4,440,000; W.B.C., 7,400; Ewald, 27 free HCl, 55 total acid; skin tests negative; B.M.R., minus 13 and minus 14; sputum negative for tuberculosis.

Treatment: Gaining, anti-constipation diet; 1 capsule each pancreatin and taka diastase three times a day, after food; thyroid gr. ½ daily; advised tonsillectomy.

Results: Jan. 11, 1932, patient had gained in weight to 117 lbs.; constipation cured. Was continuing the diet and medication prescribed and had never felt better in her life. Tonsils had not been removed.

BRONCHIAL ASTHMA

Case No. S04392, Mrs. H. R. L., first seen Dec. 31, 1928. Female; age 43; weight 87 lbs., ideal weight 127 lbs.

Diagnosis: Bronchial asthma, underweight, achlorhydria, colitis.

History: Patient had had asthma all of her life except for a period of about eight years. Asthma especially bad during the year prior to her visit to the Clinic. Indigestion began after attack of influenza two years previous, following which she lost in weight from 115 lbs. to 87 lbs. When seen by us was having from five to six loose bowel movements per day.

Examination: Poorly nourished white female. Urine negative; Ewald, 9 free HCl, 5 total acid; stools contained undigested portions of food and had offensive odor, also contained fat.

Treatment: Gaining diet with cooked fruits and vegetables, bulk limited to about 400 grams; acid fruits and fruit juices; 2 panteric capsules three times a day, after food.

Results: Aug. 15, 1930, patient came in complaining of hot flashes. Had gained in weight from 87 lbs. to 115 lbs., and had become constipated. Had continued the acid fruits and fruit juices and took the pancreatin as needed. Had not had a cold or attack of bronchial asthma since leaving the Clinic. Prescribed whole ovary preparation for the climacteric symptoms.

BRONCHIAL ASTHMA

Case No. S06333, W. E. E., first seen April 30, 1930. Male; age 62; weight 144 lbs., ideal weight 151 lbs.

Diagnosis: Bronchial asthma, severe food asthma, myocardial impairment, underweight.

History: Asthma began in December, 1928, and had grown progressively worse, despite all types of treatment under various specialists. Was using a German asthma powder, containing aspirin and caffeine, many times a day. Was having severe attacks of asthma two to ten times per night, relieved by 5 to 10 minims of adrenalin. Attacks were not frequent in the day time. Exercise to the extent of watering his lawn would bring on an attack. Tonsils had been removed in 1926. All dead teeth had been removed in 1929. Had no family history of allergy.

Examination: Poorly nourished white male with difficult asthmatic breathing. Heart 44 per cent of width of chest, electrocardiographic tracing showed right ventricular preponderance. Blood pressure, 130/80. Hemoglobin 90 per cent; urine negative; stool contained undigested fat and starch; Ewald, free HCl 22, total acid 35; skin test positive to tomato, raspberry, and cantaloupe.

Treatment: 1500-calorie semi-alkaline, anti-constipation diet, to be increased gradually; acid fruits and fruit juices; 2 panteric capsules three times a day, after food, and at bed time; epinephrine and asthmatic powders as needed; patient was instructed to lead a quiet physical life.

Results: Three and one-half months later, patient reported that he was working daily, weight 144 lbs., using asthmatic powders occasionally but no epinephrin for two months. Cough almost gone. Nov. 28, 1930, patient felt very well, was using no epinephrin. April 10, 1932, weight 155 lbs. Patient continues to take the panteric capsules. Looks well; feels well; asthma attacks practically negligible; now works as hard as he ever did and eats all the food he wants.

REFERENCES

1. Personal communication.

2. Abstract in Chemical Abstracts, p. 1394 (1930) from an original article by E. Ohlsson and

T. Swaetichin in Bull. Soc. Chem. Biol., 11, 333-98 (1929).

3. Personal communication, Frederick J. Haskins, Information Bureau, Washington, D. C., January 19, 1932.

4. Studies of Calcium and Phosphorus Metabolism XII. The effect of the ingestion of acid-producing substances. Farquharson, Salter, Tibbetts, and Aub, The Journal of Clinical Investigation, Vol. X, No. 2, June 20, 1931.

6. Diet and Digestion in Asthma, by William S. Stevens, M.R.C.V.S., The Lancet, March 7, 1931, page 553.

7. The Journal of the A.M.A., September 12, 1931, page 789.

DISCUSSION

DR. R. O. BROWN (Santa Fe, N. M.): Dr. Sansum's paper has been very interesting indeed. It so happens that I see a fairly large group of boys, ages ranging from 12 to 18, a number of whom have asthmatic trouble, hay-fever, are underweight and somewhat below par, yet without being actually sick. The common history of these boys is that they have passed through the hands of allergic specialists throughout the country and in many cases the results have been very satisfactory. Some improved for a while on restriction of food and then relapsed, while others had gotten no saisfactory results at all and, finally, perhaps as a last resort, they try climate and come to Santa Fe. The effect of climate and altitude on these boys is perfectly remarkable. Many say that altitude and climate have nothing to do with it, yet these cases come out here and do better. A large part of the benefit undoubtedly is due to the careful diet they have been instructed to maintain and to the exercise they get. We find that these boys, unless their residence in this altitude—not necessarily Santa Fe, but somewhere in a high altitude—is maintained over a period of time, are liable to relapse after going to a lower altitude. On the other hand, after staying in this country for from four years up to possibly eight or ten years, they seem to be able to go back home and live in good health.

I enjoyed the paper very much and think that we can all benefit from it.

DR. C. H. GELLENTHEIN (Valmora, N. M.): I had the privilege this afternoon of reading Dr. Sansum's paper and shall limit my discussion to underweight. When we prescribe a diet for a patient, it is something that he usually cannot appreciate or understand, because people like what they eat and generally always eat what they like. The medical profession today is much indebted to the nutritional men, men of Dr. Sansum's type, who make a serious study of diet therapy. As to underweight, this is an important and common symptom of tuberculosis. Underweight with fever and cough is sufficient for a diagnosis of tuberculosis. The cause of loss in weight is probably due to poisons but other factors must be considered. There is often the increased metabolism due to fever. As tuberculosis is essentially a wasting disease, in order to correct this underweight, we must find the cause and try to remove it rather than to increase the supply of food. It is more sensible to lessen waste than to increase intake. A normal amount of food, with enforcement of rest, will, in the majority of cases, produce a steady gain in weight. I agree with Dr. Sansum that underweight may be due to inability to digest food.

DR. HUGH T. JONES (Los Angeles, Calif.): I should like to raise one question, and that is, the effect sunshine may have on allergy in this climate. We are known as the "Sunshine State," but high altitudes usually have much more sunshine than the lower altitudes. I should like to know Dr. Sansum's experience in cases which come to California and whether they are benefited by sunshine without any other treatment. It may be that sunshine does benefit many of these cases of asthma.

DR. SANSUM (closing): I have very little, if anything, to add, except to thank you for listening to me so patiently. As nearly as I can tell from a survey we have undertaken for this particular meeting, I would say that about one-third of the patients, after they are built up to normal weight, no longer need digestive aids. In many instances, where patients have been well of their allergic conditions and stop taking their digestive aids, the allergic condition recurs. I am sure that sunshine helps everybody. It is too bad we men have to wear so many clothes. We have a very interesting little experiment going on at the Sunshine Cottage now. We are giving children sunshine practically all over their bodies, with benefit in nearly every case.

THE ASCHHEIM-ZONDEK TEST

An Aid in the Differential Diagnosis of Pregnancy.

F. B. SHARP, M. D., and M. C. FLOHR, M. D.
(Phoenix, Ariz.)

(Read before the Maricopa County Medical Society.)

Accuracy in the diagnosis of early pregnancy has attained a high degree of probability, but, without a reliable laboratory test, would possibly always be attended by uncertainty in a comparatively small but important group of cases. During the first trimester, there is no absolute physical sign of pregnancy. The palpable qualities of a pregnant uterus may be perfectly imitated by several other conditions. Visible signs and symptoms are only presumptive. Even in the later months of pregnancy, difficulties are occasionally met, although, to the acute observer, they may not be insurmountable. Certainty of diagnosis may, in many cases, wait upon the element of time, but in the important few it is imperative and all important that it be established at once. Matters of social or economic importance may be pressing, or the proper treatment of disease may be immediately imperative; consequently, the aid of the laboratory in the diagnosis of early pregnancy has long been sought.

In the diagnosis of early pregnancy, three names stand out: Hegar, Abderhalden, and, most recently, Aschheim. The names of the latter two are connected with laboratory tests for pregnancy. The original test of Abderhalden for the detection of certain proteolytic ferments in the blood stream of the pregnant woman, was a long step forward. Because of the large incidence of error, it has been given an

importance only slightly above that accorded several others. The laboratory remained ineffectual as an aid to the clinician along this line, until the report of Aschheim, working with Zondek, was published early in 1929.

The work of Zondek and Aschheim has opened a tremendous field for research. It is now demonstrable that a hormone secreted by the anterior hypophysis cerebri may, in sufficient quantity, activate the ovary, causing immature follicles to ripen and corpora lutea to form. Zondek has designated the anterior hypophysis as "the motor of ovarian activity." Stimulation of the anterior pituitary to the production of the hormone in such quantity, is prompted by the trophoblastic increase occasioned by pregnancy, even in its early state. The hormone in varying quantities has been found in the urine of pregnant women as early as one week after the first missed period. This serves as the basis of the now well-known Aschheim-Zondek test for pregnancy, and its several modifications, notably that of Friedman.

The modification by Friedman has eliminated most of the disadvantages of the original test and has added several advantages. Apparently, there has been no interference with the reliability of the test in the use of the isolated mature female rabbit instead of immature mice. In fact, the accuracy is probably increased in the clinical laboratory, where the interpretation of the original test might be impaired by the absence of an investigator with the qualifications of an Aschheim, Brouha, Erhardt or Bruhle. Many of the early investigators used mice. Brouha and Hinglais used female guinea pigs, with only one incorrect result in a series of two hundred fifty-one tests. Mathieu and McKinsey employ one immature female rat with a 97.3 per cent instance of accuracy. Although Aschheim and others report a reliability of 98 to 99 per cent for the original test, the necessity for maintaining a large breeding colony of mice, the females of which are satisfactory for the test only for a short time, while weighing between six to eight grams, the necessity for the repeated inoculation of four or five mice, the difficulty of macroscopic examination, the test period of one hundred hours, and the chances of error in all but the most expert hands, apparently render the test below the Friedman modification in practicability for the clinical laboratory.

In the presentation of their test, Friedman and Lapham rested their method upon three fundamental facts: Primarily, the rabbit does not ovulate spontaneously, so that the ovaries of an isolated unmated female contain neither corpora lutea nor corpora hemorrhagica. This fact has long been known. Second, some substance, or substances, simulating biologically the anterior lobe of the pituitary, are present in the urine of pregnant women. This fact is the keynote of the contribution by Aschheim-Zondek. Third, injections of these substances into the proper rabbit secures a quick rseponse by the formation of corpora lutea and corpora hemorrhagica. The technic of the test is simple. The patient should be instructed to bring to the laboratory a specimen of morning urine. It should be kept cool until the injection can be made. The ovaries of the rabbit may be examined in twenty-four to forty-eight hours. The changes are macroscopic and, in the absence of corpora lutea and corpora hemorrhagica, the test is negative.

Certain characteristics of the Aschheim-Zondek and its modifications must be recognized and observed. Investigators report an accuracy of 98 per cent or over for the Friedman test. The reaction represents a test for the presence of a fully functional placenta or of placental derivatives. It is not necessarily proof of the presence of a fetus, since it is positive when there is retention of portions of the placenta, incomplete abortion, hydatidiform mole and chorionepithelioma. The test remains positive for a few days after parturition or complete abortion, but may be negative in the presence of a degenerating placenta, since that condition is not associated with the production of gonadotrophic hormones. Wilson and Corner have reported a positive reaction in a case of hyperplastic endometritis, which supports the newer concept as to the endocrine factor in the etiology. Ectopic pregnancy gives a positive reaction, according to Frank and Goldberger, except where there has been a tubal abortion or complete degeneration of the ovum from any cause. Mazer and Hoffman report occasional positive reactions, without an existing pregnancy, in cases of compensatory pituitary hyperfunction accompanying ovarian deficiency. One case in our series presented such a difficulty. In the beginning of functional amenorrhea, sterilization by irradiation, and the menopause, and after bilateral oophorectomy, careful interpretation is essential. With proper technic and interpretation, the test promises to be invaluable in the diagnosis of early pregnancy, its complications, and simulating conditions. Among these conditions may be named myoma, recent or incomplete abortion, functional amenorrhea, the menopause, hydatidiform mole, and chorionepithelioma. Since Watkins states that 84 per cent of patients expelling moles recover spontaneously, many may be

spared radical surgery if the hormone test is negative in a few days and remains so. A long-continued positive reaction is significant of retention or recurrence and, under certain conditions, gives warning of malignant degeneration. Hence, as a follow-up of cases of mole or suspected chorionepithelioma, the Aschheim reaction assumes a special role.

Our series of seventy-three cases was begun early in 1931 at the Grunow Memorial, and each case represents urgency in diagnosis, or difficulty by clinical means. The diagnosis as indicated by the reaction has later been checked clinically. A number have not been included, being patients of other physicians. There were fifty-five positive reactions, in which pregnancy or the presence of functional placental elements was clinically proved later in all but one. This patient was a case of ovarian deficiency, as mentioned earlier.

Among the other positive reactions are listed three cases of fibroids and pregnancy, where the diagnosis of the latter was dependent upon the laboratory. Three cases of incomplete abortion, without previous clinical observation, were tested and we believe were benefited by positive diagnosis before curettement. One case of hydatidiform mole and one case of ectopic pregnancy are included in the group.

There were eighteen negative reactions, and these make up an interesting group, as the evidence against pregnancy was a relief to the patient in many cases and more often a help to us in the differential diagnosis of pelvic pathology. All these patients gave a history of one or more missed periods and exposure to pregnancy. Several had enlargement of the uterus from some cause, and accompanying adnexal disease in a few. Classified, the principal lesion was as follows: Fibroid, two cases; bilateral ovarian disease, cysts, etc., six cases; chocolate cyst of one ovary with enlargement of the uterus, one case; salpingitis and oophoritis resulting in total destruction of the ovary, one case. In this patient the clinical picture closely resembled that of a left tubal pregnancy. One case of pernicious anemia with amenorrhea gave, of course, a negative reaction. One case is listed as endocrine but without available clinical record. There were two cases of functional amenorrhea. The records of the other four are not available at this writing.

In conclusion, the Friedman modification of the Aschheim-Zondek test apparently lends itself to clinical laboratory technic. Familiarity with its use and a knowledge of its interpretation should keep it among the most reliable of biologic tests. In this series, we feel that there was a 98.7 per cent accuracy, and our failure to recognize clinically the one case in error was not the fault of the test as we now know it. Correlation of the history and physical findings with the laboratory, should make errors infrequent.

It is interesting to review in our minds the possibilities of the Aschheim-Zondek in chorionepithelioma. Evidence indicates that the inter-reaction is a triangular one, the trophoblastic increase being first responsible for the pituitary reaction. The latter calling forth the ovarian response, explains the abnormally long positive Aschheim-Zondek after the condition is demonstrated in cases which subsequently recover. The test is made a quantitative one by Zondek, who detoxicates with ether small pieces of suspected chorionepithelioma and implants into an animal. If a positive II or III is obtained with 1/80 to 1/100 cc. a diagnosis can be made with certainty. It is known that such cases have a higher concentration of hormone in the urine than normal pregnancy, and in the pathological tissue itself, so that the quantitative reaction is diagnostic. Larger amounts of decidua and normal placenta will give a positive reaction. Normal tissue never does, and carcinoma only when large pieces are repeatedly implanted. One writer has suggested that the door opened by the work of Aschheim-Zondek may eventually reveal hitherto undiscovered facts concerning all neoplastic growth.

CASE REPORT

An Unusual Accident Occurring During Cystoscopic Aspiration of Enormous Hydronephrosis and Hydroureterosis.

A. W. MULTHAUF, M. D.

(Presented before El Paso County Medical Society, May 23, 1932.)

In reviewing the available literature on hand, I find no record of a case that presents a similar picture. I shall present this case on account of its unusual aspects and also its past history.

The patient is a white female, age 41, whose entrance complaint was kidney trouble.

P. H.: Complaint of pain on the right side dates back to childhood. Ovarian operation 12 years ago, appendectomy, gallbladder operation 9 years ago, an operation for adhesions 6 years ago. The above operations were all intended to relieve the pain on the right side. Menstrual history: Periods regular. Have not been associated with pains in the right side. Duration, three days. Flow is moderate. G. U.: No symptoms referable to the back. No nocturia, no

hematuria, no stones or gravel. No frequency or burning. G. I.: Appetite good. Bowels, normal. Weight now is better than ever before.

P. I.: Patient states that she has had pain in the right side ever since childhood. About four years ago a local physician made a diagnosis of right kidney trouble, from physical examination and urinalysis. There was no cystoscopy at that time. She has never had attacks of chills and fever or bladder irritation. Uroselectan examination gave no positive findings as to the nature of the disease.

Examination: Patient is a fairly well-developed, well-nourished white female. Pulse, 82. Temperature, 98.6°. Blood pressure, 124/80. Head: Eyes react to light and accommodation. Pupils equal and regular. Mouth: Teeth in excellent condition. Pharynx appears normal. Neck: No thyroid enlargement. No cervical adenopathy. Chest: Heart and lungs negative. Abdomen: There is a scar in the midline and in the right rectus from a previous operation. No palpable tumor masses. A definite rigidity is noted all along the right rectus muscle from the midline up. On account of discomfort, deep palpation is impossible. No mass can, however, be outlined. External genitals: negative. Catheterized specimen of urine obtained for study shows microscopically a large amount of pus and B. coli on cultures. Total P. S. P.: 30 minutes, amount 320 cc., 28 per cent. Cystoscopic examination: Cystoscope passed under butyn anesthesia. Several ounces of cloudy urine evacuated. Inspection of the bladder revealed a low-grade cystitis. The ureteral orifices are in normal position. The right ureteral orifice presents a halo of inflammatory reaction about it. There are no stones, no tumors, diverticulae nor trabeculations noted. The vesical neck is negative. No. 6 x-ray catheters passed up to each kidney with ease and without meeting obstruction. Specimens collected for microscopic study. One's attention was immediately called to the flow that occurred from the catheter in the right ureter. The drip was continuous and the urine very cloudy in appearance. A needle was attached to the catheter and the contents from the right kidney were aspirated; 850 cubic centimeters of purulent urine were obtained. Differential P.S.P. Rt: no appearance of dye in 20 min. Left: App. time, 3 minutes. 15 per cent in 15 minutes. Kidney Specimens. Right: Large amount of pus. Culture: B. coli. Left: Epithelial cells; no pus. Culture: sterile. Bladder: large amount of pus. Culture: B. coli. A pyelogram was also made.

On account of the previous operations, all of which were advised to give relief, the patient was in no mood to listen to suggestion of surgery at the present time. She said that if we could do something of a more conservative nature for relief, she would appreciate it very much. We consequently advised her to return to the office twice a week to have a cystoscopic treatment of the right kidney, which consisted in aspiration, and lavage with an antiseptic solution. These treatments have afforded her a great deal of relief and the amount aspirated has gradually gone down from 850 cc. until, today, only 250 cc. were aspirated.

Three weeks ago, after the usual cystoscopic treatment, which consisted in the passage of a Braasch bulb catheter to the kidney, after the aspiration had been completed and the kidney lavaged, an attempt to withdraw the catheter met with a definite resistance. Upon exhausting all the gentler manipulations, considerable tension was applied to the catheter. which finally was withdrawn with a knot in it. There was a slight hemorrhage following this, which disappeared within several hours.

It can easily be seen how an accident of this sort could occur when the catheter is introduced for its full length into apparently just a large cystic sac whose known capacity was 850 cc. The catheter apparently doubled upon itself, forming a loose knot, which was drawn taut when the catheter was withdrawn.

As to the cause of the hydronephrosis. we feel that, in this particular instance, it was a congenital anomaly, because definite indications of pain on the right side can be elicited from childhood on.

GOOD SAMARITAN HOSPITAL
Phoenix, Arizona.

REPORT OF DEATHS FOR APRIL, 1932

During the month of April, 1932, eight deaths occurred in this hospital. Postmortem examinations were carried out in three cases, thus making an autopsy percentage of 37.5.

I am happy to state that, on the whole, the case reports were very satisfactory. The histories of present illness were rather scanty, and the physical examinations somewhat perfunctory. However, progress notes were brief, to the point, and usually conveyed the information for which they were intended.

Case No. 13864 was that of a white American female, 38 years of age. Three years ago she was operated upon for carcinoma and, according to the husband's statement, a short length of the small bowel was removed. Microscopic examination of the tissue removed failed to confirm the surgeon's diagnosis. Two years following the operation and eight months prior to admission, the patient began to suffer from attacks of partial obstruction. Nine days prior to admission, the patient was quite suddenly seized by colicky pains, obstipation, and vomiting. Enemas produced no result and the patient became progressively worse. Upon entrance to the hospital, she was rather toxic, with a temperature of 99.6°, a pulse rate of 110, with a distended, tender abdomen with visible peristaltic waves. Upon rectal examination, a hard globular mass was felt a finger's length up in the rectum. Upon operation, the ascending transverse and descending colons were greatly distended. A hard annular carcinoma was found at the recto-sigmoid junction. No record is made of removal of tissue for microscopic examination. A colostomy was performed but no fecal matter appeared at the colostomy opening, and the patient died five days following entrance to hospital.

It was the impression of one of the attending physicians that the failure to drain was due to paralysis of the intestine, which had been distended for nine days.

Case No. 13918 was that of a white woman, fifty years of age, who had tried unsuccessfully to treat her hypertension with Mary Baker Eddy's "Key to the Scriptures." The amount and frequency of these specific doses was not stated—at any rate the patient was brought to the hospital in a comatose condition, suffering from a cerebral hemorrhage on the left side. The blood pressure was 220/110 and the physical findings were characteristic of the cerebral accident. She improved slightly, but died five days following entrance.

Case No. 13882 was that of a six-weeks-old, premature baby, who had suffered from distention since birth. Five days prior to admission, the baby became distended and cyanotic. The distention was not relieved by enemas. Upon examination the child showed an otitis media, was jaundiced, and had an exceedingly distended abdomen. The diagnosis given in the history was Hirschsprung's disease and otitis media. In spite of heroic treatment the baby failed rapidly and died within twenty-four hours following admission. The final diagnosis was icterus gravis and acute distention. The scanty history does not give the reviewer an adequate picture of this patient, and the exact cause of death is not clearly stated.

Case No. 13471 was that of a twenty-seven-year-old Mexican housewife who entered the hospital on April 14, complaining of pain in the right side, nausea and vomiting, and constipation. It was impossible to obtain a history on account of language difficulties. The patient had been vomiting fecal matter for 24 hours, and examination of the abdomen showed tenderness in the right lower quadrant. Upon operation it was found that 6 inches of the small intestine was telescoped into itself just above and through the ileocecal valve. This could not be reached until the ileocecal valve was opened. An entero-enterostomy was done and the patient returned to the ward in fair condition. A fecal fistula developed and a re-operation was carried out seven days later. A mass of adhesions above the cecum, with a pelvic abscess, was disclosed. There was a hole in the intestine above the ileocecal valve, due to a slough. The hole in the bowel was closed and an entero-colostomy was done, with a Murphy button. Following the operation, there was profuse drainage from the operative wound, and the patient appeared better. She took nourishment freely but gradually became more emaciated and died on April 30. An autopsy disclosed that there was an obstruction of the ileum near the cecum, due to papilloma, and gangrene of the distal ileum and cecum. The union of the ileum and transverse colon was intact without evident leakage. The anatomic diagnosis was obstruction of ileum near the cecum, due to papilloma.

Case No. 13514 was that of a forty-seven-year-old American woman who entered the hospital on February 19 with a diagnosis of tuberculosis of the right kidney. Specimen of urine from the right ureter showed tuberculosis bacilli, and a pyelogram of the kidney revealed the characteristic findings of tuberculosis. On February 29 the right kidney was removed and showed an inflammatory process of tuberculous origin. The patient was given blood transfusions on March 30 and April 3. On April 8 she began to develop meningeal irritation. Spinal puncture was refused, patient developed the usual signs of meningitis and expired on April 10. A diagnosis of terminal tuberculous meningitis was made.

Case No. 13838 was that of a twenty-six-year-old American woman who entered the hospital on April 14, with a right lobar pneumonia. The usual treatment for pneumonia was carried out, but the patient died six days after entering the hospital. A postmortem showed a lobar pneumonia and chronic glomerular nephritis.

Case No. 13866 was that of a forty-three-year-old American male who entered the hospital on April 7 in a comatose condition, with an axillary temperature of 100.2° degrees, a pulse of 100 and respiration 30. A history given by a member of his family states that three weeks prior to admission the patient began to complain of being extremely tired. He developed a shuffling gait and ataxia. There were transient periods of loss of memory. Twelve days prior to admission he became comatose, following which it was impossible to arouse him. Physical examination showed a loss of muscle tone of the extremities, although the reflexes were normal. A second physical examination carried out by a consultant was essentially the same, except that a sign of Babinski was lacking and the abdominal reflexes were absent. Examination of the urine and blood was essentially normal; the spinal fluid showed four cells; the blood and spinal-fluid Wassermann were negative. The temperature and pulse rates gradually increased to 106° and 150 respectively and the patient died on the fourth day following admission. After a postmortem examination, the following anatomic diagnosis was made: passive hyperemia both lower lobes; hypostatic pneumonia; dilated right heart; chronic glomerular nephritis. Probable diagnosis of encephalitis based on clinical findings and gross autopsy changes. Final diagnosis made was encephalitis, followed by large question mark. After reading the case, it is apparent that the word encephalitis should be followed by a succession of exceedingly large question marks.

Case No. 13889, a male whose age and nationality are not stated, was brought to the hospital on April 12, in an unconscious condition following a motor-car accident. Aside from lacerations of the left face, the examination was negative except for sluggish patellar reflexes. The blood pressure was 120/70; pulse 80. The x-ray examination showed a fracture at the base of the skull. Four hours later the blood pressure had risen to 180/100 and pulse to 144; respiration almost ceased. A spinal puncture revealed a bloody fluid, and the patient died a short time later.

This case brings up the interesting subject of

spinal puncture in intracranial injuries. It is not intended that these comments are a criticism of the treatment in this case. Since the advent of the motor car, the incidence of intracranial injury has been tremendous. It is now necessary that every general practitioner be acquainted with some of the rudiments of neurological surgery. It would seem desirable that the Arizona State Medical Association, through a committee of surgeons, should formulate certain rules or outlines to guide the general practitioner in his treatment of these conditions. A casual perusal of the literature would convince even a non-surgeon that far too many procedures are carried out upon the average case of intracranial injury. Routine lumbar punctures are to be condemned. It is almost impossible to do a lumbar puncture upon a normal individual without producing headache. The headache is due to cerebral injury. The injury probably occurs because the brain is thrust against the sides of the skull. If a lumbar puncture is done in the presence of increased cranial pressure, the resultant trauma will be proportionally greater. It is true that the patient may improve immediately after the lumber puncture, but it is only temporary. If the hemorrhage is in the posterior cranial fossa the patient will probably be made worse instantly, owing to injury of the medulla.

In the presence of extradural hemorrhage, the release of pressure promotes further bleeding. It is, therefore, advisable that a patient be studied thoroughly by the old-fashioned method of observation before subjecting him to x-ray examinations, lumbar punctures, and protracted physical examinations. If I were brought to the average small town hospital with an intracranial injury, I should prefer to be left strictly alone, for, as Dandy has reiterated, about 70 per cent of intracranial injuries will recover if left strictly alone; about 20 per cent will be lost with the utmost available efforts because the injuries are so severe. About 10 per cent of the cases that would be lost if left alone can be saved by well-timed and well-directed operative treatment. The state of consciousness gives us the most delicate indications of intracranial pressure. If the unconsciousness deepens during the first five or six hours following admission, one knows that the pressure is increasing and that surgical intervention must be considered. If consciousness is returning, it indicates that cerebral pressure is being reduced and that the patient is improving.

Vacillations in the pulse rate indicate an impending break in compensation. Irregularities indicate the same condition. An increase in the temperature also indicates a rise of the intracranial pressure. Blood pressure records are of little value. Restlessness means either that the patient is coming out of coma or going into it. Restlessness should never be submerged by morphine, for our most valuable sign would be masked.

As has been previously stated, Dandy believes that operation is indicated in less than 10 per cent of the cases. When, after a period of six to eight hours, the patient shows deepening coma, cessation of restlessness, vacillation of pulse, tachycardia, increasing respiration, then surgical intervention is indicated. If a patient is going to die from injuries of the brain in less than five or six hours, excepting extradural hemorrhage, there is nothing that one can do to prevent it—there is no point in operating upon a patient with such a high degree of intracranial pressure.

Marked individuality must be displayed in the treatment of cases of head injury. It is well to remember that 70 per cent of the cases will recover if nothing is done. It is well to consider this fact before hastily advising operative procedure. One should be sure that treatment will confer some benefit upon the patient and not result in additional harm.

ROBERT STANLEY FLINN, M. D.

REVIEW OF DEATHS FOR MAY, 1932

There were twelve deaths during the month of May and four autopsies obtained. One of these deaths occurred after the patient had left the hospital, but is reported, inasmuch as an autopsy was secured.

Case No. 13708: Gunshot wound of head. Entered the hospital on the 4th of March, was discharged from the hospital, improved, on the 31st of March, and died April 28. At the time of admission, hair was matted with blood and about an ounce of cerebral tissue. There was a puncture wound (gunshot) of the right temporal region just above the hair line, nearly anterior to the forehead. Marked ecchymosis of right upper eyelid; eye swollen shut. Left eye was normal. Pupils reacted to light, normal in size and shape. Left cheek markedly swollen but no discoloration. Nose and mouth negative. Ears showed no fresh blood. Throat revealed some fresh blood. X-ray report as follows: "There is shown bullet wound on the right side of the skull through the lateral aspect of the frontal bone about 1 inch above the floor of the anterior fossa. From the small fragments of bullet, the track of this missile can be traced inward and downward, the larger portion of the bullet having lodged in the superior maxilla on the left side at about the level of the floor of the antrum. One rather large fragment of bullet is shown at the level of the floor of the anterior fossa on the right side."

At the time of discharge from the hospital, a final progress note was made as follows: "Wounds on thighs healed. Wound of right frontal region of head healing well. Still some swelling of left maxillary region with marked tenderness over zygomatic area. Both orbital regions still swollen and discolored. Right eye—pupil fully dilated; no reaction to light or accommodation. No voluntary control of movement of right eyeball. No vision in right eye (according to patient). Right eye thus seems to show severance of right optic and trochlear nerves as well as oculomotor, or else pressure from bullet fragments or hemorrhage is causing the

paralysis. The left eye is apparently normal. Pupil reacts to light and accommodation. Patient is still unable to open jaws completely. Apparently no impairment of motor nerve function elsewhere."

Autopsy performed May 2, 1932: Examination revealed female of about thirty years of age. Examination was limited to cranium and revealed point of entrance of bullet about 1½ inches above the right external auditory meatus and about 1¼ inches anterior to the same. At this point between the dura and the skull is an old organized abscess containing several fragments of bone and with brain substance adherent to the skull through a hole in the dura. The track of the bullet could be traced from this point of entrance downward and forward into the left maxillary sinus, making a groove on the right sphenoidal ridge and passing through the cribriform plate. Surface of the bone showed purulent meningitis of chronic form with evident organization. Right frontal lobe showed softening as evidence of chronic encephalitis. No evidence of recent hemorrhage was found.

Cause of death: Purulent meningitis and encephalitis.

Case No. 14043: Entered hospital May 5th and died May 6th. Diagnosis: Acute cardiac decompensation, arteriosclerotic aortic and mitral insufficiency, auricular fibrillation.

This man was found by the roadside unconscious and remained unconscious until the hour of his death. Autopsy findings were those of arteriosclerotic and passive congestive changes. Death was due to acute cardiac decompensation.

Case No. 14061: Patient entered the hospital on the 8th of May and died on the 14th. The clinical diagnosis in this case was cardiac decompensation; auricular fibrillation. The anatomic diagnosis: hypertrophic heart with dilatation and incompetent tricuspid valve; multiple infarcts in both lungs; extensive atelectasis of right lung; sub-acute adhesive pericarditis; right hydrothorax; cirrhosis of the liver; chronic glomerular nephritis; chronic cystic colloid goiter. It would certainly seem that this patient had enough things wrong with him to cause his death and there are no comments regarding the treatment.

Case No. 14164: entered the hospital on May 23d and died May 25th. The clinical diagnosis was diarrhea, undetermined; possible malignancy. This man was 68 years old and had had a severe diarrhea for about a week prior to admission to the hospital. He was in an extremely critical condition on admission, due to marked dehydration. Fluids were forced, together with glucose, without improvement. The autopsy was confined to the abdomen and the anatomic diagnosis was gastro enteritis, dehydration and inanition.

Case No. 14111: entered the hospital May 15th and died May 25th. The clinical diagnosis was chronic obstipation; possible malignancy; chronic myocarditis. Autopsy findings were of a generalized carcinomatosis with primary growth in the prostate; hydronephrosis of right kidney; dilatation of mitral and tricuspid valves of the heart, due to the sclerotic changes.

Case No. 14155 entered the hospital May 21st and died May 29th. Diagnosis: Multiple fistulae connecting bowel and skin, bowel and uterus, bowel and bladder; metrorrhagia, general peritonitis; abdominal adhesions. A hysterectomy, adhesiolysis and repair of fistula were done in this case.

The history in this case is of marked interest and is therefore presented. Uterine hemorrhage, duration five weeks, one of several attacks. Fecal drainage per sinuses abdominal existing six years. Severe cystitis, duration 5½ years.

P. H. Usual childhood diseases. Patient was undernourished and not very strong as a child. At the onset of menstruation she complained of pain in left lower quadrant, which persisted until 1927. Health was fairly good following the age of twelve, with the exception of influenza in 1917 and 1920. Menses began at the age of twelve, 24 to 28 day interval. Periods very painful with profuse flow. Married 1924; one full term pregnancy with no complications. Has had some vaginal discharge.

P. I. Patient dates her present illness from the onset of menstruation at the age of twelve, which was accompanied by pain in the left lower quadrant. This persisted until 1920, when Dr. Newell removed the tube and ovary. Patient was relieved for about one year following operation and then symptoms of pain, fever, vomiting and profuse menstruation returned. In 1923, patient had a hemoptysis of bright red blood and was diagnosed at that time as having pulmonary tuberculosis. Following three years of rest in Arizona, patient returned home and her health was improved. One year later, there were symptoms of pain in left lower quadrant, high temperature, vomiting, general prostration; and fluid in the abdomen was noticed. On July 14, 1926, patient had a pelvic operation and thinks a tuberculous tube was removed. Has been draining pus from wound ever since. On March 14, 1927, she was operated on again to close the abdominal sinus. Five days after the operation, fecal material began to discharge through the fistula. After removal of the retention catheter, which had been in place for three weeks following the operation, urine began to discharge through the fisutla. Since then two other fistulas have opened on the abdominal wall.

Case No. 14030: The patient entered the hospital May 3d, and was delivered of twins. One baby died May 3d, the other May 7th. Both were premature.

Case No. 13976: Patient entered the hospital April 24th and died May 2d. This man was irrational and history could not be obtained. He was markedly undernourished and in very poor condition at the time of admission. X-ray of the gastro-intestinal tract: "The stomach was spherical in shape and showed a constant ragged pyloric deformity, strongly suggestve of malignancy. About 25 per cent of the barium mass remained in the stomach after 24 hours. The enlarged prostate made it almost impossible to introduce the rectal tube to outline the colon." The clinical diagnosis in this case

was malignancy of the stomach; hypertrophy of the prostate.

Case No. 13967: Entered the hospital April 23rd and died May 2d. This was a case of intestinal obstruction due to adhesions. An enterostomy was first done, which resulted in marked improvement. Three days later the loop of bowel where the enterostomy was done was removed, a lateral anastomosis was done, and adhesions causing the obstruction were freed. The patient seemed markedly improved the following day, but died two days after the second operation, apparently from a circulatory collapse.

Case No. 14060: Baby 5 months old entered hospital May 8th and died the same day. Diagnosis: intussusception. Operation: "Upon opening the abdomen a large amount of thin fluid was encoun-

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CASE REPORTS

EL PASO CITY COUNTY HOSPITAL

El Paso, Texas, May 18, 1932

Case presented by DR. JOHN HARDY. The patient, female, Negro, age 18 months, entered hospital April 10, 1932. Previous history irrelevant. The mother stated that at about 5:30 in the afternoon the child fell from her arms, striking its head on the floor. It cried for quite a while and then slept for about half an hour and woke up, and she noticed a twitching first in the hand. It soon became generalized over the right side and she brought the child to the hospital, where I saw it soon after. Before I got to the hospital, however, Dr. Rodarte had performed a spinal puncture and obtained a clear fluid under pressure. He reported it to me when he phoned and, as our agreement was, he did not repeat this tap. The picture was one of extradural hemorrhage. When I saw the child, the convulsions were general over the right side, and I told the mother what I thought was the matter with the child and offered operation, which was finally accepted. The child was quieter when it came to the operating room, but the convulsions had extended to the left foot. The baby was anesthetized very carefully by Dr. Vestal and I operated, thinking that the lesion was that of the anterior branch of the middle meningeal. About the time that the decompression was completed, the child died. We found some extradural clot but not nearly enough to account for the symptoms.

Autopsy Diagnosis: Status thymico-lymphaticus.

Discussion by DR. J. LEIGHTON GREEN: Nothing much is known about such cases as this and so it is hard to discuss. Parker and Ridening advance the theory that the chromocells show a hyperplasia of the lymphoid elements. In a typical case of status thymico-lymphaticus, the cervical and tracheobronchial mesenteric glands are enlarged. The Peyer's patches are much larger than normal. In other words, there is an enlargement of all the lymphoid structures of the body. It is not recognizable except at autopsy. The x-ray may show an enlarged thymus, but this is not necessarily proof of status thymico-lymphaticus. We usually think of it in children, but it does occur in adults. Those people prone to Addison's disease show the same findings as those who save status thymico-lymphaticus, and it is believed, therefore, that the disease in the infant will show itself in the adult as Addison's disease. We know that those people are susceptible to trauma, anesthesia, etc., and are more apt to have convulsions than the normal child. However, the condition can not be diagnosed ordinarily before autopsy.

DR. J. MOTT RAWLINGS: All the symptoms that Dr. Green describes were found at autopsy, there was no edema of the brain and no extradural and intradural clot, so the diagnosis made was status thymico-lymphaticus.

Case presented by DR. W. R. JAMIESON. The patient, male, American, age 41, was admitted March 5, and died April 6, 1932. Admission diagnosis: stone in left ureter. Chief complaint was pain in left lumbar region. History was that, ten days prior to admission, he became sick with "flu," cough, fever, body aching, etc. Went to bed and stayed there. Six days later he started having pain in left lumbar region, about three inches above crest of ilium. Pain radiated a short distance downward and was worse when he sat up or turned over on his left side. Had no attacks of acute pain, no chills, no frequency, nocturia, or dysuria, no hematuria. Past history was not obtained.

Examination was negative except for amputation of right upper thigh, slight distention of abdomen, pressure on right side of which caused pain on left, large firm mass in left lumbar region extending up under costal margin and very tender to pressure. Blood pressure 108/72. Temperature on admission 102.4; pulse, 104; respirations, 22. Urine: orange amber, very cloudy, alkaline, 1.020, one plus albumin, no casts, a few pus cells (3/6). Blood: Hb. 75; R. B. C. 5,610,000; W. B. C., 12,400; polys., 74 per cent, Kolmer anti-complementary (3/11).

Course: On March 7, the patient was cystoscoped. Right catheter passed into ureter fairly easily. During the cystoscopic, a fairly large amount of pus was seen issuing from the left ureter. Left ureter evidently was obstructed by what was thuoght to be a stone, and catheter was passed only about one and a half inches. On the 11th, he was again cystoscoped and right ureter was catheterized. One cc. of P. S. P. was given intravenously. The dye appeared in about three and a half minutes. A ten-minute specimen of urine showed 10 per cent of the dye. Urine from right kidney showed one plus albumin and no casts or pus cells.

An x-ray dated March 11 showed "a large calculus filling the left kidney, with a rather huge mass on this side occupying the site of the renal organ. In addition to the large opaque mass opposite the second lumbar region on the left, there are numerous smaller dense calcified masses directly beneath the last floating rib of this same side and op-

posite the lower border of the third lumbar vertebra. Several smaller more or less irregular areas of a similar character are found midway between the last mentioned mass and the vertebral column. On the right side, what appears to be a possible stone is seen just beneath the floating rib about an inch proximal to its end. Gas masses make it difficult to identify structures. There is marked sclerosis of the vessels of the right side, with calcification of the walls of said vessels. No stones are seen in the bladder. Impression: Nephrolithiasis, left perinephritic abscess.'

On March 14, patient was operated. A large amount of perinephritic pus was evacuated and an enormously enlarged kidney was incised and explored and two walled-off pus pockets evacuated. The patient's general condition precluded any further measures, so drains were inserted and wound closed.

The patient left the table in poor condition, but rallied and did fairly well under treatment for a couple of weeks. Then he lost ground rapidly and succumbed on the twenty-third postoperative day (Apr. 6). His urine on the 28th of March showed four plus albumin and innumerable pus cells: and his blood on April 1 showed 20,200 w.b.c. His temp. curve before operation was typically a septic one, from normal to 102°. Following operation it ran around normal to 100° for the first week and then started shooting up to 101° and 102.5° and 106° on April 4th, with intermissions to normal occasionally. On March 30, dressings from wound showed fecal matter, which continued. Gradually he went from bad to worse and died Apr. 6.

The autopsy showed the following findings:

Heart: The heart is removed and opened following the course of blood stream. Nothing of unusual note is found: the valves are intact, the musculature is good, no thrombi or vegetations are encountered.

The left lung is markedly atelectatic in some areas and emphysematous in others. The adhesions covering this lung resemble those occurring in a tuberculous pleurisy.

The right lung is striking for the occurrence of a lobar pneumonia completely filling the right lower lobe. This pneumonic process is complete, involving every portion of this right lower lobe, and is in the state of the so-called gray hepatization. There is a purulent secretion coming from the bronchi of this lower lobe. The upper lobe is air-containing.

The liver is slightly fatty in type.

The gallbladder contains a thickened inspissated material. The gallbladder is large and dilated, and numerous adhesions pass from its outer surface to the adjacent hepatic loop of the colon and to the duodenum.

The pancreas is normal.

The spleen is very large and swollen, being from five to six times normal size, and shows the presence of an acute splenic tumor of marked degree.

The bowels are essentially normal, with the exception of the descending colon. Here, when it is loosened from the adjacent tissues underlying it, which are markedly infiltrated with inflammatory reaction, we are at once struck by the fact that an ulcer has occurred between the bowel wall and the underlying tissues, and that there is direct communication between this loop of the colon and the retroperitoneal area. This latter area is now examined by moving forward the kidney mass with its adjacent tissues. In so doing, we find that there is an extensive area of gangrene of the body wall which extends from the level of the lower edge of the spleen as far as Poupart's ligament. It involves the iliopsoas muscle on this left side, the muscle undergoing complete necrosis and disintegration as a result. The gangrene has not extended over the anterior abdominal wall, but limits itself to the lateral wall margin.

The left kidney is next examined, found to be incased in a great pad of thickened perirenal fat. The ureter leading from it is dilated, thin walled and necrotic. The kidney is again examined and found to contain a large calculus 3½ by 4½ cm., rather friable and easily broken, with numerous smaller calculi in other calices. The main calculus is in the lower pelvis. All the pelves show erosion and invasion of their substance by an acute process, while the cortical substance of the kidney itself is largely destroyed by this invasion.

The right kidney shows some infiltration with perirenal fat, but there is no abscess present and one finds on opening the kidney only a small amount of granular detritis and debris. The ureter is a little dilated.

The bladder shows a beginning necrosis of its lining wall.

The aorta shows nothing of unusual note.

Summary: We are dealing in this case with a marked grade of renal calculus, with ulceration, perinephritic abscess, gangrene of the body parts from the extensive abscess and resultant terminal ulceration into the wall of the descending colon at a point just below the splenic flexure. There is also a terminal extensive lobar pneumonia of the right lower lobe.

There are three important pathological conditions in this case; namely: stone in the kidney pelvis and calyx, multiple abscesses of the kidney substance, and perinephritic abscess.

The causation of renal lithiasis is still a matter of speculation. Several theories have been advanced, but none satisfactorily proved. The one that is the most tenable is that of the colloids which hold the crystalline elements in super-saturated solution. That this must be so, is evident from the fact that uric acid, a constant constituent of urine, is soluble in 1-16000 parts of cold water, and as the amount excreted is ten times as much, at least, as could be dissolved in the amount of urine passed daily, it is evident that there must be some constituent in the urine to accomplish this solution. If some change takes place in these colloids, such as coagulation, they lose their power of holding the crystalline elements in solution and form the nucleus of a frame-

work upon which these crystalloids are deposited. However, that this may occur there must be a suitable surface upon which the alternate deposition of crystalloids and colloids may take place.

It was noted during the World War that there is a definite relation between stone formation in the kidney and suppurative lesions of the bones. Stagnation following renal and ureteral anomalies, favors calculus formation. One would think that the passage of crystals, or even a copious deposit in fresh urine, would be the forerunner of stone formation, yet it is known that many persons pass uric acid and oxylates in large quantities without being the subject of lithiasis.

Anatomically, the lower calyx of the kidney is well below the upper extremity of the ureteral outlet. When man went on all fours, there was probably perfect drainage from this calyx, as, in the prone position, it empties perfectly. When the patient is on his back, all the calices drain imperfectly. In the case quoted the stone formation may have begun at the time the patient had an injury to his leg resulting in amputation of the right thigh, with probable confinement in bed for some time. Next to the pelvis, the lower calyx is the most frequent site for stone.

Stone is most common among the Hindus, Arabs, Southern Chinese, and the Anglo-Saxons, in the order named. While it would appear that stone should be more common among those who eat largely of foods rich in purines, which cause the excretion of large quantities of uric acid, yet it is well known that stone occurs much more frequently in the poor than in the rich, particularly in those who live on monotonous diet composed largely of carbohydrates. In fact, the majority of uric acid stones are found in people living on a practically purine-free diet.

Fifty years or so ago, stone in children was quite common, but under better hygienic conditions and more rational feeding, it has declined greatly. Therefore, we must look further for the cause of stone formation.

McCarrison showed experimentally that, if rats were kept on a diet of oatmeal, linseed meal, sodium chloride, and calcium phosphate, and given distilled water in large quantities, about 30 per cent developed phosphate calculi. If two ounces of milk were provided for each three rats, none formed calculus.

Fujimaki found that a deficiency in vitamin A regularly produced stones, not only in the kidney and bladder, but also in the gallbladder. These developed after rats had been on this diet for 12 weeks or more. The addition of a little cod-liver oil to the diet for short periods of time, lengthened the life of the rats. Probably there was deficiency in other vitamins besides vitamin A. If the formation of stone is due to a vitamin deficiency, it may be asked why children at the breast develop it, but it must be remembered that many poorer classes nurse their children for long periods of time and it is very likely that the milk of such mothers becomes lacking in these vitamins, particularly the fat-soluble ones.

Chronic infection may predispose to stone formation. Rosenow and Meisser filled the devitalized teeth of six dogs with streptococci isolated from the urine of a patient with lithiasis. Five developed calculi and the other died before calculus developed. In four, the calculus was bilateral. Evidences of infection of the renal tract and the lesions in the kidney were slight, except where the ureter was obstructed by the impacted stone. The organism injected was isolated from the kidneys from some of the stones. In these experiments the conditions were similar to those occurring in men suffering from war wounds with infected bone lesions, in which there was a tendency to bilateral stone.

The thing that struck me most forcibly is the vitamin deficiency in forming these stones, and I think men of the urological service would do well to inquire about the diet and the possibility of injury and confinement on the back for a long time.

DISCUSSION

DR. A. W. MULTHAUF: There is not much more to say. I just want to bring out one point in a differential diagnosis of perinephritic abscess. I think it is probably one of the easiest diagnoses to make in the upper renal tract, because the symptomatology is so definite when the condition is well established. The first thing that probably calls attention to the perinephritic abscess is the excessive tenderness these patients have on palpation of the costovertebral area. The second, is the absence of renal findings until the condition is well along in its course. By that I mean the absence of pus or blood in the urine in the early stages. The x-ray is likewise a help, because they seem to believe that there is obliteration of the size of the psoas shadow on the side on which the abscess is. I should like to know if, from the autopsy, they could draw any conclusions as to the cause of the marked gangrenous condition which was present in this particular case.

DR. JAMIESON: The diagnosis in perinephritic abscess is not always as easy as the previous speaker states. It is true that, where there is bulging of the costovertebral angle, with marked tenderness and the constitutional symptoms of septic absorption, the diagnosis is fairly easy. But in the incipiency of these cases, where there is nothing but a septic temperature, with an abscess located well up under the ribs and no costovertebral tenderness, the diagnosis can be made only by weighing all the symptoms and through a process of elimination arriving at a correct diagnosis. Until the cortical abscess bursts, or finds its way into the pelvis of the kidney, the renal findings are usually negative.

DR. J. MOTT RAWLINGS: The kidney in this particular case shows as extensive an involvement with cortical abscesses from the calculus residing within its interior, as any case I have seen. In two places the erosion through the cortex was complete and this caused the perinephritic abscess to form. The extensive gangrene was due to the tremendous extent of the perinephritic abscess, which had eaten its way to Poupart's ligament, had caused an abscess of the psoas muscle and had begun to cause necrosis of the abdominal wall.

PUBLIC HEALTH NOTES

J. ROSSLYN EARP, Dr. P. H.
Director New Mexico State Bureau of Public

MEXICAN SMALLPOX

An epidemiological study of the greatest importance to all physicians practising in the Southwest is that published recently by Chapin and Smith on the two varieties of smallpox.[1] The milder variety (alastrim) spread over the world from Florida in the years following its appearance there in 1896. It is the contention of these authors that the mild type breeds true. They have set themselves to show, and have succeeded to a remarkable degree in showing, that outbreaks with high fatality rates arise from endemic foci of the more severe strain of smallpox. Our interest is especially in the frequency with which outbreaks of the severe type have been derived from Mexico. A U. S. Public Health Service official stationed at El Paso in 1899 recorded that practically all Mexican cities were infected with smallpox most of the time and that two-thirds of all Mexicans seen had had smallpox. The Health Section of the League of Nations reported 4,654 deaths from smallpox in Mexico in 1928.

The writers have considered each outbreak of severe smallpox in the United States since the year 1900. Again and again the invasion of the virulent type is attributed to a source in Mexico. Less frequently, definite evidence of such a source is forthcoming. Mexico is more often incriminated in some such words as these: (In 1916) "Severe smallpox had been endemic in Texas for a long time, but the local health officers believe that there were frequent importations from Mexico. Arizona is supposed to have obtained its smallpox from the same source."

The situation is summarized as follows:

> The most important source of our virulent smallpox has been Mexico, where the disease has prevailed extensively for a long period. Our border states have been infected many times and have had more frequent outbreaks than other parts of the country. Just before the period in which our study begins, there was much virulent smallpox in Arizona, New Mexico, and Texas. It was largely among Indians and Mexicans and much of it was known to have been derived from Mexico. Notwithstanding the lack of reliable statistics from this part of the country, outbreaks of the severe type of smallpox have been noted in California during ten of the years 1911-1927; in Arizona during ten of the years 1908-1926; in New Mexico in 1923; and in Texas in thirteen of the years 1908-1923. In many instances a number of localities have been infected and, occasionally, the disease has been imported several times. Louisiana, though not a border state, has through railroads to Mexico and frequent and close communication by water; it suffered from severe smallpox during twelve of the years 1900-1921. It is true that importation from Mexico has not been demonstrated in every outbreak, but it has been proved for a considerable number. Absence of good epidemiological work explains the absence of reliable records and also much of the presence of the disease.

The constant occurrence of a highly fatal type of smallpox in Mexico and the frequency of outbreaks of this type of the disease in some of the border states should at least put us on our guard. The excellent vaccination laws of New Mexico may account for the rare appearance of this state in Doctor Chapin's black list and the absence of fatal smallpox in recent years. Constant vigilance is the price of safety.

PRESIDENTIAL ADDRESS ON PUBLIC HEALTH

I wish that every practising physician in New Mexico might have an opportunity to read Dr. Frank Stephenson's presidential address to the Colorado State Medical Society at Estes Park on September 8.[2] Dr. Stephenson thinks to the bottom of our problems and maintains that calm philosophy which is possible only on such a basis. The degree to which government can control us depends ultimately upon "the common thought of the people. . . . . Common thought probably does not approve control of the morals or health of an individual so long as any ill effects are confined to himself, except as applied to childhood." Dr. Stephenson objects as a taxpayer to contribute to the care of a patient suffering from communicable disease. He is willing to help bear the expense of insisting that the patient shall secure treatment. One suspects he would be willing to share in the expense of educating the patient to the point where he is willing to seek treatment without being forced to do so. It is apparent that, as a physician, he will negotiate in a public-spirited way to find some means of securing adequate treatment for those who are unable to afford it. Here are his axioms stated so succinctly that I must beg leave to quote once more.

> Let us assume it established then, that individuals have inalienable rights upon which the government ought not to infringe; that there are fixed and just limits to the obligation of the taxpayer; that the medical profession is concerned with public health administration as a matter of fundamental principle; that the two fields of service are closely allied and interrelated; that they are both parts of one single and whole medical practice; that each has duties to perform toward the other, necessitating friendly cooperation; and that without that cooperation both public health and private practice will suffer.

Here is one point that remains unsettled. Would Dr. Stephenson (as a taxpayer) wish to have a diag-

nostic procedure charged up to him, or would he prefer to pay a policeman to compel a person suspected of a communicable disease to prove his innocence (or guilt) at his own expense? Practical illustrations are the routine examination of food handlers and the provision of free Wassermann service for diagnostic use. I pose this question simply to round out Dr. Stephenson's survey of the province of public health. I am confident that Dr. Stephenson, the "common thought," and I, should all give the same answer.

REFERENCES

1. Chapin, C. V.; and Smith, J.: Permanency of the mild type of smallpox. J. of Preventive Med.: 6:273 (July) 1932.

2. Stephenson, F. B.: Public health and the medical profession, Colorado Medicine: 29:393 (October) 1932.

DISCUSSION

DR. FRANK B. STEPHENSON (Denver, Colo.): Dr. Earp has been kind enough to take notice of my address on Public Health and the Medical Profession and to comment to some extent thereon. I should like to answer the interrogation contained in the last paragraph of his comments. I believe it is a sound sociological principle, that an individual known to have a communicable disease owes it to society to remove the menace which his condition constitutes. If it is economically impossible for him to do so, then, for the sake of public health and public economy and as a public charity, he should be treated by the state. If, however, an individual is merely suspected of having a communicable disease, he is more in the category of a suspected criminal, and it is incumbent upon the state to make a diagnosis and prove or disprove the suspicion. Even in such cases, however, I believe that, in the interests of public economy, he might well be urged to pay for his diagnosis, and that the state should make it only upon his refusal to do so. Furthermore, when a state laboratory receives blood specimens without restriction from doctors all over the state who are treating patients privately and are requiring, let us say, the Wassermann test in the course of their private treatment of a "pay" patient, it is economically unfair that some practising pathologist, who might otherwise receive a just fee from this particular patient, should be taxed for having the work done elsewhere. Dr. Earp cites a practical illustration and I am, in turn, citing another practical illustration. I agree with him entirely with respect to patients who are examined at public health clinics, but do not believe state laboratory facilities should be extended to the patients of private practitioners who are paid a fee for their own work on the case.

ARIZONA STATE MEDICAL ASSOCIATION.

(Continuaton of Annual Reports)

TO THE COUNCIL AND HOUSE OF DELEGATES, ARIZONA STATE MEDICAL ASSOCIATION

Gentlemen:

We. the undersigned, a committee duly appointed to audit the books of the Association's State Treasurer, Dr. Yount, report as follows:

(1). We have checked the bonds listed in the report and find them in the safe deposit box in the Bank of Arizona, and the cash of the General Fund and the Medical Defense Fund is on deposit in the Bank of Arizona and the Yavapai County Savings Bank respectively, in amounts reported.

(2). We congratulate the Association in the choice of Treasurer and commend him for the thought and efficiency which he has displayed in handling the Association's funds.

(3). We recommend that paragraph 1, page 3 of his recommendations, "that the total dues be continued at $12.50 (twelve dollars and fifty cents) per annum", be adopted.

(4). We recommend that paragraph 2 of his recommendations, "that $500.00 (five hundred dollars) be transferred from the General Fund to the Medical Defense Fund", be adopted.

(5). We recommend that, contingent upon the adoption of the above paragraph, the Treasurer be instructed to purchase $500.00 (five hundred dollars) worth of United States bonds, paying for them from the Medical Defense Fund now in the Yavapai County Savings Bank.

(6). We further recommend that the duties of the Associtaion's Treasurer shall include: Sending a copy of his annual report to each member of the Council and Medical Association.

(7). We further recommend that the sum of $25.00 (twenty-five dollars) be paid the Association Treasuurer annually to defray the expenses of his office.

(8). We further recommend that the Medical Defense Committee establish a maximum amount that will be paid in the defense of any liability suit which may be brought against one of our members; and that that amount be published to the Association membership; and that the Association Treasurer by instructed to pay no warrants in excess of that amount.

Respectfully submitted,
H. T. Southworth,
John W. Flinn.

REPORT OF COMMITTEE ON NATIONAL LEGISLATION.

The perennial question of the Jones Bill has again come up for consideration this year and your representative has sent letters to the Arizona representatives in Congress protesting against the passage of this bill. The Jones Bill has to do with Ma-

(Continued on page 480)

TREASURER'S REPORT

Gentlemen:

I present herewith Treasurer's report for the year ending April 13, 1932. (Books closed this date).

GENERAL STATEMENT

Total Receipts All Sources:			
Balance General Fund April 22, 1931,		$ 1,763.36	
Dues 1931, 285 members at $12.50		3,562.50	
Donation (Troth)		15.00	
Defense Fund, Balance in Savings Bank April 22, 1931.	$4,080.68		
Interest and coupons	581.86	4,662.54	
United States Bonds		10,000.00	
Total Receipts all sources		$20,003.40	
Total Disbursements all sources		2,023.25	
Balance All Funds			$17,980.15

ANALYSIS AND STATEMENT BY FUNDS

1. General Fund:

Receipts:

Balance in Bank of Arizona April 22, 1931,	$ 1,763.36	
285 Members pro rated at $6.00 Medical Defense	1,710.00	
285 Members pro rated at $6.50 General Fund,	1,852.50	
Donation (Troth)	15.00	
Total Receipts		$ 5,340.86

Disbursements, Duly Authorized, Paid from General Fund:

A. C. Taylor Printing Co., Programs	$ 26.25	
Donofrio Floral Co., (Dr. Todt)	15.00	
St. Louis Button Co. Badges	48.00	
D. F. Harbridge, Secretary's expense	60.00	
Bank of Arizona, Safety Deposit Box	3.00	
Southwestern Medicine, 293 members	586.00	
Martindell, Horne & Co., Treasurer's bond	30.00	
Mrs. Josephine Randolph, Stenographer	100.00	
Sloan, Holton, McKesson & Scott, Med. Defense	5.00	
Dr. Clarence Gunter, Special	150.00	
A. C. Taylor Printing Co., Stationery	4.00	
Sloan, Holton, McKesson & Scott, Med. Defense	5.00	
Sloan, Holton, McKesson & Scott, Med. Defense	100.00	
Sloan, Holton, McKesson & Scott, General	7.85	
A. C. Taylor Printing Co., annual cards	3.50	
D. F. Harbridge, Secretary's expense	60.00	
D. F. Harbridge, telephone	1.30	
J. T. Gust, Attorney, annual retainer	100.00	
Sloan, Holton, McKesson & Scott, Med. Defense	509.40	
A. C. Taylor Printing Co., Med. Defense forms	27.50	
A. C. Taylor Printing Co., stationery	16.50	
Tucker & Morgan, Med. Defense (Powell vs Sweek)	66.00	
St. Louis Button Co., badges	43.60	
Ralph Williams, file	14.60	
A. C. Taylor Printing Co., programs	40.75	
	$ 2,023.25	
April 12, 1932, Transferred to Defense Fund	894.10	2,917.35
April 13, 1932, Balance in Bank of Arizona		$ 2,423.51

2. Defense Fund:

Receipts:

Balance in Savings Bank April 22, 1931	$ 4,080.68	
Interest June 30, 1931	69.62	
Dec. 31,1931	87.24	
Coupons, U. S. Bonds, June, 1931	212.56	
Dec. 1931	212.44	
285 members pro rated at $6.00 Medical Defense	1,710.00	$ 6,372.54

Expenditures:

Bank of Arizona, Safety Deposit Box	$ 3.00	
Sloan, Holton, McKesson & Scott	5.00	
Sloan, Holton, McKesson & Scott	5.00	
J. T. Gust, Attorney, annual retainer	100.00	
Sloan, Holton, McKesson & Scott	509.40	
A. C. Taylor Printing Co., Med. Defense forms	27.50	
Tucker & Morgan	66.00	
Sloan, Holton, McKesson & Scott	100.00	815.90
April 13, 1932, Balance in Yavapai County Savings Bank		$ 5,556.64
CLEARING: Dues 285 members at $6.00	$ 1,710.00	
Cost of Med. Defense for year	815.90	
Balance of Defense Fund in General Fund, Transferred to Yavapai County Savings Bank April 12, 1932	$ 894.10	

TOTAL AMOUNT AVAILABLE FOR MEDICAL DEFENSE

Cash in Defense Fund	$ 5,556.64
United States Bonds	10,000.00
	$15,556.64

EARNINGS OF DEFENSE FUND and Bonds Since Last Report

Bonds, Coupons June 1931	$ 212.56
" Dec. 1931	212.44
Savings Account, Interest June	69.62
Dec.	87.24
	$ 581.86

UNPAID EXPENSE FOR 1932:

To Southwestern Medicine—285 members at $2.00	$ 570.00
To Secretary for office expense	120.00
Stenographer annual meeting	100.00
	$ 790.00

RECOMMENDATIONS:

1. Our Medical Defense reserve has been increased this year by about $1,500.00, but from the increased cost of the cases which we have had to defend in the last two years, I believe that we should continue our Medical Defense dues as last year, namely $6.00. The Association dues of $6.50 have given us a very satisfactory balance this year. The total dues should be the same as last year, $12.50.

2. With a balance in the General Fund of $2,423.51 I would recommend the transfer of $500.00 from the General Fund to the Medical Defense Fund.

3. I recommend the purchase of United States Government Bonds, 1944-1945 bearing 4 per cent interest, of the sum of $4,000.00 plus cost of purchase.

Respectfully submitted,
C. E. Yount,
Treasurer.

We, the undersigned, acommittee duly appointed by President H. A. Reese, have audited the books of the Treasurer and inspected the bonds in his custody, and find them to be correct.

H. T. Southworth,
John W. Flinn,

Southwestern Medicine

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MEDICAL AND SURGICAL ASSOCIATION OF THE SOUTHWEST

PROGRAM
of the
EIGHTEENTH ANNUAL MEETING

ALBUQUERQUE, N. M.
DECEMBER 8, 9, and 10, 1932

The program for this year's Southwestern meeting is different from anything which has been presented at any annual medical meeting in the southwest for many years, at least. It is made up almost entirely from the membership of the Association with only a few invited guests. It will be inmarked contrast to the New Mexico Medical Society's last annual meeting, where most of the program was given by invited guests. This will be a challenge to the doctors of New Mexico for attendance, and will be a challenge to the participants in the Southwestern program. If our members are able to present as interesting and instructive a program and if the meeting attracts as large an attendance from New Mexico, as their own annual meeting did, it should silence the voices of those who have insisted on a program made up, in large part, of guests from all over the country.

THURSDAY, DECEMBER 8
General Scientific Session

MELDRUM K. WYLDER - - - Albuquerque
"Autumn Diarrhea in Children."

N. H. KELLER - - - - - - - - El Paso
"Physiology of Nephritis."

J. H. PATTERSON - - - - - - Phoenix
"The Cervix and Some of Its Problems."

M. C. COMER - - - - - - - - - Tucson
"Conservatism versus So-called Radicalism."

J. H. GAMBRELL - - - - - - - El Paso
"Carcinoma of the Thyroid, with Case Report."

JOHN W. FLINN - - - - - - - - Prescott
and
ZEDUD M. FLINN - - - - - Albuquerque
"The Tissue Reactions to the Tubercle Bacillus."

Thursday Evening

Address of the President.
Address of the President-Elect.

W. P. HOLBROOK - - - - - - - - Tucson
"Therapy in Chronic Rheumatic Diseases."

LOUIS B. BALDWIN - - - - - - - Phoenix
"Some Clinical Aspects of Essential Hypertension."

FRIDAY, DECEMBER 9

J. J. BEATTY - - - - - - - - - Tucson
"What Can We Do with the Far Advanced Case of Tuberculosis?"

KELVIN D. LYNCH - - - - - - - El Paso
"Some Observations on Transurethral Prostatic Resection."

DAVID M. DAVIS - - - - - - - - Phoenix
"Radium Treatment of Carcinoma of the Prostate and Bladder."

C. S. KIBLER - - - - - - - - - Tucson
"Pulmonary Tuberculosis with Acute Onset."

W. P. SHERRILL - - - - - - - - Phoenix
"Tuberculosis from the Standpoint of the Pediatrician."

STEPHEN A. and FRANK P. SCHUSTER - El Paso
"Some Observations on Cataract."

R. B. HOMAN - - - - - - - - - El Paso
"The Treatment of Lung Abscess."

THOMAS W. WOODMAN - - - - Phoenix
(To be announced.)

Friday Evening

Dinner and Dance for members, guests and ladies.

SATURDAY, DECEMBER 10

H. M. PURCELL - - - - - - - - Phoenix
"Trichomonas Infection."

VICTOR RANDOLPH - - - - - - - Phoenix
"Intrapleural Pneumolysis, with Special Reference to Bilateral Pneumothorax, in the Treatment of Tuberculosis."

HENRY L. FRANKLIN - - - - - - Phoenix
"Refractive Errors in Their Relation to General Medicine."

WM. L. REID - - - - - - - - - Phoenix
"Symptoms of Gall Bladder Disease and Operative Findings."

W. WARNER WATKINS - - - - - Phoenix
"The Natural History of Gastric Ulcer as Shown by X-ray."

MEADE CLYNE - - - - - - - - - Tucson
"Scalenotomy in the Treatment of Tuberculosis."

General Business Meeting.
Committee Reports.
Election of Officers.
Place of Next Meeting.

OFFICERS AND COMMITTEES

President:
W. R. JAMIESON - - - El Paso, Tex.
President-Elect:
F. D. VICKERS - - - Deming, N. M.
First Vice-President:
W. A. GEKLER - - Albuquerque, N. M.
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Past Presidents of the Association

1913 S. D. SWOPE - - - - - El Paso (organization)
1914 R. L. RAMEY - - - - - El Paso
1915 JOHN E. BACON - - Miami, Ariz.
*1916 A. G. SHORTLE - - - Albuquerque
*1917 JOEL I. BUTLER - - - - Tucson
*1918-19 P. G. CORNISH, SR. - Albuquerque (no meeting in 1918.)
1920 W. WARNER WATKINS - - Phoenix
1921 JAMES VANCE - - - - - El Paso
1922 M. K. WYLDER - - - Albuquerque
1923 R. D. KENNEDY - - - Globe, Ariz.
1924 J. R. VAN ATTA - - Albuquerque
*1925 H. H. STARK - - - - - El Paso
1926 WILLARD SMITH - - - - Phoenix
1927 WILLIS W. WAITE - - - El Paso
*1928 HUGH CROUSE - - - - - El Paso
1929 P. G. CORNISH, JR. - Albuquerque
1930 E. PAYNE PALMER - - - Phoenix
1921-32 W. R. JAMIESON - - - - El Paso (change in constitution.)

* Deceased.

MEMBERSHIP ROSTER

x Dues not paid for current year.
xx and xxx Dues delinquent for two or three years.

x Adams C. W.
Adamson, E. W.
xx Allison, Dwight
Armbruster, A. C.
Arnold, D. G.
Austin, C. P.
Bacon, John E.
Bailey, H. T.
x Bakes, E. C.
Bannister, Kimball
xxx Barnes, Fletcher M.
xx Barrett, Frank O.
Berger, B. M.
Bledsoe, N. C.
Bloomhardt, S. I.
xBradley R. I.
x Brazie, Walter
Brehmer, H. L.
Bridge, Geo. A.
Britton, J. M.
Brockway, Geo. M.
Brown, C. P.
Brown, Edgar H.
xxx Brown, O. E.
x Brown, Orville H.
xx Brown, Oscar S.
Brown, Robt. O.
Brown, W. L.
xx Browning, Alonzo L.
xx Burtch, L. A. W.
x Butler, P. M.
Byrd, E. L.
Camp, Jim
Carhart, W. G.
Carlson, A. C.
Carson, H. R.
x Catheart, John W.
Causey, Z.
Charvoz, E. R.
xx Christian, Paul C.
Clohessy, T. T.
Clyne, Meade
Cohenour, L. B.
Comer, M. C.
Cornish, P. G., Jr.
Couch, G. B.
x Cruthirds, A. E.
Culpepper, M. B.
Cummins, E. J.
xxx Daniels, D. C.
Davis, Augustus
Davis, David M.
Davis, S. C.
Davis, W. J.
x Drane, J. E.
Duncan, Chas. G.
xx Duncan, E. A.
Eckles, S. H.
x Espinosa, Tobias
Evans, F. B.
Fahey, Wm. A.
x Fattebert, Carlos
Felch, H. J.
Fitzgerald, G. H.
xx Flannigam, S. E.
Flinn, John W.
x Flinn, Robert S.
Foster, R. C.
x Fournier, Dudley
x Franklin, H. L.
Franklin, R. T.
Frazin, N. D.
Fronske, M. G.
Funk, Z. E.
xx Gambrell, J. H.
x Garduno, Lopez
x Garrett, F. D.
xx Garrison, I. L.
Gay, W. W.
xx Geer, R. H.
x Gekler, W. A.
xx Gibbes, Helen S.
xx Gibbs, M. D.
Gorman, James J.
Goodrich, Geo. E.
Gotthelf, E. J.
Greer, Jos. M.
Gudgel, H. B.
x Gunter, Clarence
Haffner, S. M.
Hamer, J. D.
Harbridge, D. F.
Harper, T. C.
xxx Harris, H. A.
xx Hart, F. J.
Helm, H. M.
x Hendricks, C. M.
x Hicks, E. L.
Hogeland, F. T.
Holmes, Fred G.
Holt, W. A.
x Homan, R. B.
x Homan, R. H.
xx Hughes, Colt I.
Ingalls, H. A.
x Irvin, C. E.
x Jamieson, W. R.
Jeffries, C. D.
Johnson, F. H.
xxx Johnston, L. S.
Jordan, F. C.
Jumper, Carl E.
Kennedy, R. D.
Kennedy, Vernon
Ketcherside, H. D.
Kibler, C. S.
Kingsley, A. C.
Kirmse, A. T.
Laws, J. W.
Leff, M. I.
Leigh, Harry
xx Little, S. D.
Littlefield, J. B.
Long, A. D.
Looney, R. N.
Lovelace, W. R.
Lynch, K. D.
x Madrid, Alberto
Mahoney, Dan L.
Martin, T. P.
x Mason, C. H.
x Matanovich, M.
x Matthews, E. C.
x McCall, T. E.
xxx McCamant, T. J.
x McCreary, M.
McIntyre, A. J.
x McLoone, J. J.
Meason, James M.
Melton, B. L.
x Miller, F. P.
Miller, H. A.
x Milloy, Frank J.
Mills, Chas. W.
Mills, H. P.
Miner, L. L.
Moir, John G.
x Morris, J. W.
x Morrison, J. N.
x Mulky, Carl
Nettle, A. I.
Newman, S. H.
xx Nichols, H. A.
xx Paden, M. G.
Palmer, E. Payne
Palmer, R. F.
xx Pate, L. H.
Patterson, J. H.
Peters, L. S.
Phillips, E. W.
x Pickett, J. A.
x Ploussard, Chas. N
x Powers, Homer
x Prentiss, E. C.
x Price, E. D.
x Pruett, F. A.
Purcell, H. M.
Quiroz, Ernesto
Ramey, R. L.
xxx Ramos, R. A.
xx Randell, B. W.
Randolph, Howell
Randolph, Victor
Raney, R. B.
Rawlings, J. A.
Redden, J. E.
Reese, F. L.
Reid, Wm. L.
Reidy, J. A.
x Rheinheimer, E. W.
Rice, Hal W.
Richards, L. H.
xxx Rigney, Paul
Robb, Mayo
x Rogde, Jacob
Rogers, V. S.
Rogers, W. P.
Safford, H. T.
Schuster, F. P.
Schuster, S. A.
Schwartz, W. A.
Scott, James R.
x Self, T. F.
xx Shannon, Hugh M.
Sharp, F. B.
Sharp, W. S.
xx Shaver, P. M.
Shelley, A. A.
Sherman, H. H.
Sherrill, W. P.
Shields, Geo. E.
Shultz, W. G.
x Smelker, V. A.
x Smith, H. M.
x Smith, John M.
xSmith, Leslie M.
Smith, M. F.
Smith, R. K.
Smith, Willard
Southworth, H. T.
x Spearman, T. S.
Steed, P. M.
Stevenson, H. E.
x Stovall, R. F.
Stratton, J. N.
Stroud, R. J.
Stroup, H. A.
Sult, C. W.
Swackhamer, C. R.
x Swearingen, D. D.
Sweek, W. O.
xx Swope, S. D.
Tappan, J. W.
Thayer, L. H.
Thomas, C. A.
x Thompson, E. B.
x Thomeson, R. F.
xxx Triolo, J. M.
Turner, George
Tuthill, A. M.
Utzinger, O. E.
Van Atta, J. R.
Vance, James
Vandevere, W. E.
xx Varner, H. H.
Vickers, F. D.
Von Almen, S. G.
x Waite, W. W.
Watkins, W. W.
Watson, S. H.
Watts, R. E.
Watts, W. B., Jr.
xxx Weigel, B. J.
Werley, G.
Wheeler, A. J.
x Whitacre, H. E.
White, A. C.
White, H. S.
x Wightman, L. E.
x Wilkinson, W. W.
Wilson, M. E.
xx Winchester, J. M.
xx Wood, J. P.
x Woodall, G. H.
Woodman, T. W.
Woolston, W. H.
xxx Wright, J. E.
Wylder, M. K.
x Wylie, Win
Yellott, R. E.
x Yount, C. E.

Members Deceased During 1932

P. G. Cornish, Sr., Albuquerque, N. M.
C. W. Brown, Phoenix, Ariz.
W. J. Latta, Wagon Mound, N. M.
E. D. McKinley, Alamogordo, N. M.
H. W. Squibb, Safford, Ariz.

Members Resigned or Dropped for Delinquent Dues (four years)

J. Jiminez Aldana, Mexico.
Enrique Bax-Dresch, Mexico.
A. E. Bessette.
T. J. Bouldin, St. Johns, Ariz.
W. M. Branch, El Paso, Tex.
W. W. Britton, El Paso.
A. E. Broser
A. F. Brown
George Bruner, El Paso
W. B. Cantrell
P. H. Casellas
E. B. Clark
J. A. Copeland, Wickenburg, Ariz.
F. C. Diver
F. T. Fahlen, Phoenix
Paul G llagher, El Paso
D. W. Gillick
Jose Guerra
Carlos T. Gutierrez
S. T. Harris
J. O. Hatcher
S. J. Hanks
C. L. Hathaway
R. A. Hernandez
Charlton Jay
W. T. Joyner
Geo. J. Laben
J. Y. Lapsley
T. C. Liddell
R. O. Lieuallen
J. D. Love
R. E. McBride
J. M. Pearson
E. C. Price
B. M. Richardson
E. B. Rogers
T. C. Sexton
E. B. Shaw
A. M. Smith
T. H. Slaughter
J. H. Steele
B. F. Stevens
S. L. Terrell
John Wix Thomas
Alexander Wallace
O. C. West
S. D. Whiting
W. V. Whitmore
C. S. Williams
John C. Wilson
J. H. Wooley
Harley Yandell
Ira C. Young

Last minute changes in the program will be the following:

Dr. E. W. Johns, Albuquerque, will present a paper on "Psoriasis Rupioides Complicated by Carcinoma."

Drs. Walter B. Coffey and John D. Humber, of San Francisco, will give the address on Thursday evening on some phase of Research Work; the two papers listed in the program for that evening will be placed elsewhere in the final program.

A Clinical Luncheon will be held each noon. On Thursday, the address will be given by Dr. O. S. Fowler, of Denver; on Friday, Dr. W. B. Coffey, of San Francisco will give the address; on Saturday, Dr. G. Heusinkveld, of Denver, will give the address.

Clinics will be arranged for Friday and Saturday mornings, at the St. Joseph's Hospital and Presbyterian Hospital.

MRS. WALTER JACKSON FREEMAN

The president of the Woman's Auxiliary to the American Medical Association, Mrs. Walter Jackson Freeman, died in Philadelphia, on October 27, after an illness of three weeks. Mrs. Freeman was the daughter of the late Dr. William W. Keen of Philadelphia, her husband is a physician and she has two physician sons. Her entire life was peculiarly allied to the medical profession and we join with the Woman's Auxiliary in mourning an inspiring and able leader.

WILLIAM AUGUST PUCKNER

The death of Prof. William A. Puckner on October 1, after more than twenty-six years of service as Secretary of the Council on Pharmacy and Chemistry, marked an epoch in the work of that body. In February, 1905, the Board of Trustees adopted a resolution creating the Council, and Professor Puckner took office as Secretary on March 1, 1906. It is interesting to realize that three of the members of the Council at its inception—namely, Drs. George H. Simmons, Torald Sollmann and Robert Hatcher—are still members of that body and that they with Professor Puckner were a vital force in its activities during its first quarter century. The Council has aided in the elimination of secrecy in medical prescription; it has discouraged misleading statements; it has standardized new preparations before their inclusion in the Pharmacopeia, and it has brought the medical profession of this country to a better realization of scientific therapeutics than obtains anywhere else in the world. In its work the Council has had the approval of the majority of the medical profession, if not their constant cooperation. In 1909, shortly after taking over his duties as Secretary of the Council, the vision of Professor Puckner became so impaired that it was necessary for him to give up laboratory work entirely. Nevertheless, his memory was so remarkable, his grasp of affairs so embracing, and the force of his character so tenacious that he carried on his work efficiently almost to the day of his death. As Secretary of the Council he exercised a rare judicial attitude toward the problems that came before him, at the same time evidencing a scientific point of view in his evaluation of both laboratory and clinical evidence. The Board of Trustees will, at its next meeting, select a successor to the man who served as field marshal in the campaign for scientific therapy during the last twenty-five years. His position brought on him not infrequently bitter attacks and even the enmity of some of the commercial interests that considered themselves damaged by the Council's work. The next epoch in the career of the Council should have the cooperation from practicing physicians so complete as to indicate to manufacturers in the field of pharmacy the necessity for maintaining scientific standards if they wish medical support. (Jour. A.M.A., October 15, 1932, p. 1354.)

The Council has unanimously adopted the following report of the Committee on Resolutions on the death of William August Puckner:

William August Puckner was born February 24, 1864, at New Holstein, Wisconsin. He died in the Presbyterian Hospital, Chicago, October 1, 1932. He had been in failing health for a long time and in the hospital some ten weeks.

The creation of the Council on Pharmacy and Chemistry was authorized by the Board of Trustees of the American Medical Association February 3,

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1906; the first meeting of the newly created Council was held at Pittsburgh some ten days later. Professor Puckner, one of the original members, attended that meeting and was active in formulating the principles on which the Council has worked, as expressed in its official rules of procedure. One year later he became Secretary, a position of grave responsibility; he filled it well and faithfully for twenty-six years and seven months. Professor Puckner was well equipped for the position he had assumed. A graduate of the Chicago College of Pharmacy, now the Illinois School of Pharmacy, he later became Professor of Chemistry in that school. He took a course of chemistry at Harvard University and later studied at the University of Heidelberg. He received the honorary degrees of Doctor of Pharmacy, from the University of Pittsburgh, and Master of Pharmacy, from the Philadelphia School of Science. Doctor Puckner was an outstanding chemist and at the time of his appointment as Secretary of the Council he had already won for himself an enviable reputation in the field of alkaloidal chemistry. He was a charter member of the Chicago Section of the American Chemical Society and was elected chairman of that section in 1895. For some years Doctor Puckner was chief chemist for a pharmaceutical firm known as "Searle and Hereth" and this, added to his experience as professor in the school of pharmacy, gave him an intimate knowledge, from every angle, of the work he was undertaking. On accepting the secretaryship he, of course, gave up his connection with this firm. Doctor Puckner was endowed with an especially good memory which possibly became more acute when he became blind. If he were asked about a product that had been before the Council months or years before, without referring to the bulletin or any other records, it was seldom that he was unable to give in detail every action taken that lead to its acceptance or rejection. Under his direction, the weekly bulletin—the medium by which the Council transacts its business—became a model of efficiency. But of much more importance in this Council work was his personality, his attributes, his characteristics. While occasionally he had to meet, personally, representatives of firms submitting products, he preferred wherever possible the more deliberate practice of correspondence. In this he exhibited tact, patience, resourcefulness, qualities that were absolutely necessary for a successful solution of the many problems that were continually coming up. In all such cases Doctor Puckner was able to see and appreciate the point of view of the other side, the manufacturer. When his eyes began failing and when he realized that the condition would inevitably result in blindness, Professor Puckner courageously prepared himself to face the handicap. He investigated the practicability of Braille's system for the blind and the typewriter; both of these he used. He kept in touch with current medical and chemical literature, both English and foreign, especially German, by having matter read to him, and in the case of important articles, recorded on the dictaphone for review at home; for his determination to overcome this disability compelled him to work at night as well as day. To those who knew him at his daily work, Doctor Puckner seemed to have dedicated his life to that which seemed nearest to his heart—the success of the Council and its efforts to advance scientific therapeutics. With patience in adversity, with sincerity of purpose, with conscientious devotion, he carried on. His heart was in his work; His Life devoted to the cause he served.

The Council, individually and collectively, wish to express their high regard and affection for Professor Puckner as a friend and co-worker and admiration for the way he carried on, for his executive ability, for his efficiency in spite of handicap, for his loyalty. In his death, the Council has lost a member of unique value: THE MEDICAL PROFESSION, a servant who unobtrusively served it faithfully for a quarter of a century.

REVIEW OF DEATHS FOR MAY, 1932

(Continued from page 469)

terred. Lower part of small intestine was very dark and distended; there was evidence of peritonitis. There was a mass in the right side which, when delivered, showed the tip of the appendix only, the lower ileum and cecum had been invaginated into the ascending colon. The intussusception was reduced. About 4 inches of the lower ileum was gangrenous, the blood supply having been shut off. Child was in shock. Resection was quickly done and abdomen closed." Child died.

Case No. 14093: Entered the hospital May 12th and died May 21st, following cholecystectomy and appendectomy. This man developed an acute enteritis of unknown origin on the fifth postoperative day, then pneumonia and progressive cardiac collapse.

Case No. 14195: This patient died three hours after admission to the hospital. The diagnosis was morphine addiction, cellulitis right arm, toxic hepatitis. No postmortem examination was done.

It would seem in reviewing these charts that everything possible was done for these patients and that death in each instance was inevitable. All of these records were quite complete.

THOMAS W. WOODMAN, M. D.

ARIZONA STATE MEDICAL ASSOCIATION.
(Continuaton of Annual Reports)

(Continued from page 473)

ternity and Child Welfare, and continuously bobs up because of the insistence of certain heads of so-called Child Welfare who seemingly have that something over the Congress which commands respect.

This bill, just as the Sheppard-Towner Bill, ties in a lot of child welfare theories with a health program, in which lay people govern the medical profession through the working of the bill. The prime object is to subsidize the health departments with equal amounts of money put up by Congress to do this work. This kind of legislation is not desired by the health departments, much and all as they need money to do necessary things, and niggardly as most legislatures are with the departments of health.

There have been bills introduced which are more favorable to health departments which tie them up with the Surgeon General's Department and which are governed by that department, making medical men deal with medical men. Even these have been frowned upon by the guiding spirits of the A. M. A. This legislation is vicious, and any comment as to lay people dipping in too deeply in medical affairs to the people set up in the Child Hygiene Department brings forth acrid comment from the various individuals in the department.

When the Sheppard-Towner plan was working in

Arizona,—and we spent as much per capita as any other state,—our infant mortality was the highest in the United States, one hundred twenty-five per thousand. Our climatic conditions may have accounted for some of it. But when this was withdrawn and a sensible program of immunization substituted by the Arizona State Board of Health, the rate dropped materially and we passed many states. Not one immunizing dose of anything was given or advocated under the Sheppard-Towner program, and it seemed the state which had the best book reports of visits made got the most credit.

If any of you have influence with our congressmen, ask them to refuse to support legislation which is vicious enough to have medical men told by laymen how to conduct health departments.

Another vicious bill is that which will again provide for more hospital beds for veterans. A survey made has shown that there are enough beds to care for all of the veterans who will be sick from any cause, and now that the bars are down and no service connection is needed, they go for every condition.

No one wants a man sick from service and while in the service denied anything, and we do not seriously object at present to the apparent lessening of vigilance by the profession allowing men to go for everything, but to add more beds when not needed, especially when the taxpayer is already overwhelmed, should be strenuously fought.

Soon the families of the veterans will have to be admitted, and already, only a few years ago, it was hard to fill the beds at Whipple. When these families are carried down through three generations the United States will be caring for one-third of the medical work of the country, as the hospitals will have to be used, for Uncle Sam won't shut any of them down because of pressure brought by the communities they are in. In fact, only a tax payers' revolution of non-payment and a defiant attitude towards the government will ever make a U. S. Congress retrench, if the events of the past few weeks concerning the cutting of Federal pay is an indication.

If the national government will not do the work, then states and counties will take over the hospitals and state medicine will be over the top, and we shall be governed, not by freedom of action and good medicine which is the result of keen competition, but by the man of lesser medical ability who is a politician and has the grafter mind. You know how this thing works already in other lines, with paper brains holding big offices all over the country.

Freedom of choice of a physician should be the right of every American citizen, but in our own state this is not now true to a large extent, and we do feel that the freedom of choice is becoming less with the passing years.

Any of you having friends among congressmen should call their attention to this bill, both from your own and the taxpayers' standpoint.

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Protecting both mother and child against

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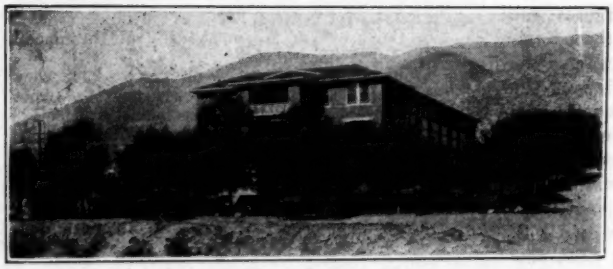

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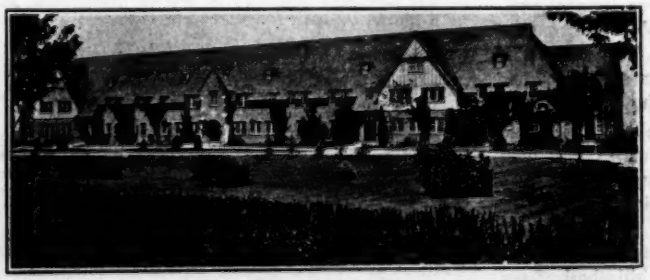

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CRUM EPLER, M. D.
Superintendent

ices, then either have the national government assume the medical bills on a schedule basis, or give the veteran such sick benefits in the form of more pension so that every community is benefited instead of a few, and the men have their freedom of choice of physicians.

Even as it is those veterans out of a job tend to seek the hospitals, thereby creating a bigger expense than just keeping them. Two cases that have come to my own personal attention recently have demonstrated this.

R. J. STROUD.

"STONE WALLS DO NOT A PRISON MAKE NOR IRON BARS A CAGE."

Winter is a jailer who shuts us all in from the fullest vitamin D value of sunlight. The baby becomes virtually a prisoner, in several senses: First of all, meterologic observations prove that winter sunshine in most sections of the country averages 10 to 50 per cent less than summer sunshine. Secondly, the quality of the available sunshine is inferior due to the greater distance of the sun from the earth altering the angle of the sun's rays. Again, the hour of the day has an important bearing: At 8:30 A. M. there is an average loss of over 31%, and at 3:30 P. M., over 21%.

Furthermore, at this season, the mother is likely to bundle her baby to keep it warm, shutting out the sun from Baby's skin; and in turning the carriage away from the wind, she may also turn the child's face away from the sun.

Moreover, as Dr. Alfred F. Hess has pointed out, "it has never been determined whether the skin of individuals varies in its content of ergosterol" (synthesized by the sun's rays into vitamin D) "or, again, whether this factor is equally distributed throughout the surface of the body."

While neither Mead's Viosterol in Oil 250 D nor Mead's 10 D Cod Liver Oil with Viosterol constitutes a substitute for sunshine, they do offer an effective, controllable supplement especially important because the only natural foodstuff that contains appreciable quantities of vitamin D is egg-yolk. Unlike winter sunshine, the vitamin D value of Mead's antiricketic products does not vary from day to day or from hour to hour.

PSYCHOLOGY AND PSYCHIATRY IN PEDIATRICS: the Problem Report of the subcommittee on Psychology and Psychiatry, Bronson Crothers, M. D., Chairman, Children's Hospital, Boston. White House Conference on Child Health and Protection. The Century Co., New York, London.

This book is dedicated to the children of America whose faces are turned toward the light of a new day and who must be prepared to meet a great adventure.

The intelligent psychiatrist regards struggle and unhappiness and even limited failure as vivid and often promising evidence. The over-exhibition of maladjustment, delinquency, truancy, school failure, he reports not as defiance of moral or educational codes but as signs that the child has not found a simple and effective way of meeting the world in which he lives.

It is a readable, well-thought-out report on a timely subject. It endeavors to show what psychiatrists doing valid work are trying to do. It attempts to correct much sloppy thinking on the role the psychiatrist should play in pediatrices.

T. G. B.

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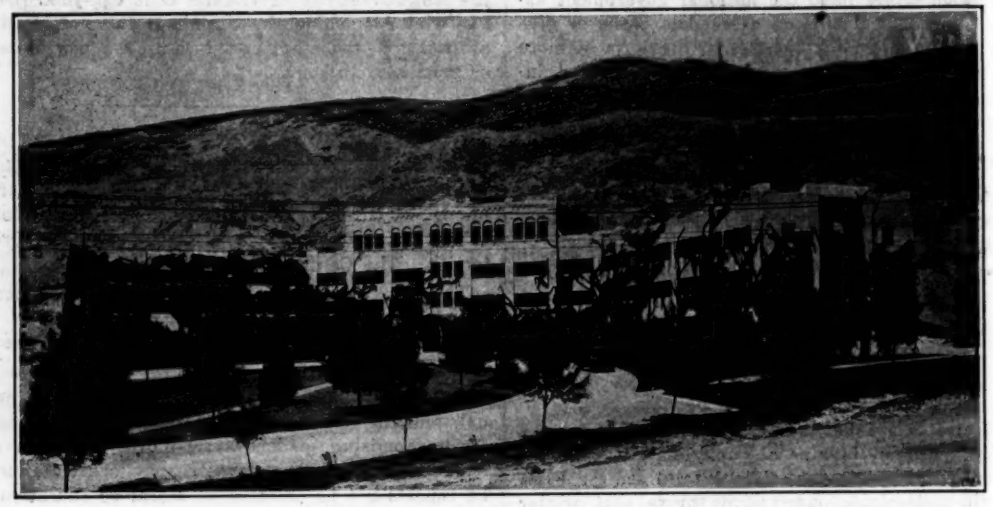

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